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TRANSACTIONS

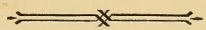
OF THE

GUERNSEY

SOCIETY OF NATURAL SCIENCE

AND

LOCAL RESEARCH.



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1895–1899.

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GUERNSEY

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TRANSACTIONS OF THE SOCIETY.

Monthly Meeting held January 21st, 1895, Mr. A. Collenette, President, in the chair.

Mr. J. S. Hocart exhibited various bones found by him in a peat deposit at l'Ancresse. Mr. Bunyard, of Maidstone, presented to the Society a collection of flint implements, chippings and cores found in Kent.

Mr. E. D. Marquand read a most interesting paper on "Wild Flowers in December." This paper will be found printed on a subsequent page of this number.

[No meeting was held in February.]

Monthly Meeting held March 13th, 1895, Mr. A. Collenette, President, in the chair.

Dr. Dunlop (Jersey) and Mr. H. Rogers were unanimously elected members of the Society.

Mr. J. S. Hocart exhibited more bones and fragments of wood found in the peat deposit at l'Ancresse. Mrs. Keeling, through Mr. Collenette, exhibited small Astec idols found by her at the earth pyramid of Cholulu, in Mexico, also a fungus parasitic on a cicada found in the same region.

Mr. W. A. Luff exhibited three specimens, one male and two females, of *Agrostis crassa*, captured by Mr. Hodges in August, 1893, near Bordeaux Harbour. This insect (an example of which was found by Mr. Luff in 1874) has never been taken in Britain, but is common in France, Austria and Germany.

A large number of microscopic objects, palates of mollusca, plant sections, and minute forms of animal life, were exhibited by means of the oxyhydrogen light, Mr. Marquand describing many of the objects.

Monthly Meeting held April 11th, 1895, Mr. A. Collenette, President, in the chair.

Mr. Luff exhibited a micro-photo of the rare mite, *Rhincolophus plumipes*, found by him at St. Ouen's Bay, Jersey, in August, 1894. This mite, on the authority of Dr. C. F. George, has been found hitherto only in Algeria, Switzerland and Corfu, but never in Britain.

Mr. Royle and Mr. Luff read extracts relating to the extraordinary conduct of the moth *Pronuba yuccacella* in fertilising the flowers of the yucca. This was followed by an animated discussion.

Monthly Meeting held May 13th, 1895, Mr. A. Collenette, President, in the chair.

Mr. W. A. Luff exhibited a specimen of the Hemipteron, *Salda saltatoria*, new to the Guernsey list, also a new beetle, *Bryaxis impressus*.

Mr. Bougourd exhibited specimens of gneiss from a quarry near Santos. Mr. Bougourd also furnished a number of popular sayings in the Guernsey dialect.

Miss Dawber reported hearing the Cuckoo on April 13th; Mr. Swinburne the appearance of the Grey-headed Crow, and Mr. Collenette the stranding of a Dolphin *(Risso's Dolphin)* in Vazon Bay. Mr. Puttock exhibited the fins of this latter. Mr. Collenette exhibited a Whelk *(Buccinum undatum)* of unusual size, taken in the harbour.

The appearance of the Long-tailed Field Mouse and the Water Vole was also noted; the latter was found in the stream at Grande Mare. This latter is new to the Guernsey list of mammals.

The Secretary of the Geological Section read a report of the work done at the recent out-door meetings.

Monthly Meeting held June 13th, 1895, Mr. A. Collenette, President, in the chair.

Mr. J. Swinburne, F.R.P.S. Edin., was unanimously elected a member of the Society.

Mr. Z. Robert exhibited specimens of gneiss from Rio Janeiro, Guernsey, Alderney and Sark.

Mr. Luff exhibited a cast of the Great Seal of England, 1651, the engraving of which was done by a Mr. Thomas Simon, who, if not himself a Guernseyman (as is often stated) at least married a Guernseywoman. Mr. Luff also exhibited

the following insects new to the Guernsey list :—(A) *Monalocornis filicis*, taken on Whit Monday on the cliffs at Pleinmont. (B) *Gnathoconus albo-marginatus*, taken on Whit Tuesday at Saints' Bay; rare in England, being found only on the south coast and Isle of Wight.

The President read the following note on the "Sleeping Disease in Tomatoes" :—

NOTE

ON THE FUNGUS PRODUCING THE "SLEEPING DISEASE IN TOMATOES."

BY A. COLLENETTE, F.C.S.

The tomatoes in Guernsey have for the last three years been attacked by a disease called locally the "sleeping disease." Desiring to understand it, and, if possible, cure it, I investigated the matter during last year, with the result that I became convinced that a fungus found present in all the plants examined was the cause of the disease. At the request of the Council of the Royal Horticultural Society of England I described the disease and its development in a paper read before that Society last March. Professor Henslow then wrote me and asked for specimens, which I forwarded, and in which he found the fungus and forwarded them on to Mr. S. Massee, of Kew. More specimens have been sent on to Kew, and Mr. Massee now informs me that the fungus is undoubtedly the cause of the disease, which he assures me has become general in England. Mr. Massee has studied the fungus and now writes as follows :—"The fungus is a polymorphic one and has five resting spores that spend their resting stage in the soil. The commonest phase belongs to the form-genus *Fusarium*." The disease will be kept under observation in the hope of discovering other useful details, among others, the possibility of getting the disease through the medium of the seed as well as through the soil."*

Mr. Collenette also drew attention to the fact that the work of the Society had been referred to frequently in the "Annals of British Geology for 1893."

The Secretary of the Botanical Section reported on the work done during the recent outdoor meetings, and also read the list of plants added to the flora of Jethou on the visit to that Island in 1894.

The bones recently found in the peat deposit at l'Ancresse were exhibited, and a comparison made with the bones and teeth of known animals.

* During the month of October Mr. Massee communicated the fact that he had grown the disease by means of the infected seed. Local observations have also given the same results.

Monthly Meeting held July 10th, 1895, Mr. A. Collenette, President, in the chair.

The following ladies and gentlemen were unanimously elected members of the Society :—Mrs. Hervey, Belvidere, Miss Brown, Miss Chant, Rev. Walter Brock, Mr. B. Nesfield, Mr. Overman, Mr. R. H. L. Roberts, M.I.C.E.

Three coins—two Roman and one English—found near the large Cromlech, l'Ancresse, in 1888, by Miss Smith, were exhibited and presented to the Society. Miss Boley also exhibited a silver half-groat of Elizabeth, probable date 1580, found by her on Lihou Island, about six or eight inches below the surface, during the excursion of June 25th.

The Secretaries of the various sections gave a detailed account of the work done during the excursions of the past month.

[No indoor meeting was held during August.]

Monthly Meeting held September 11th, 1895, Mr. A. Collenette, President, in the chair.

Mr. Royle reported on the work of the Botanical Section and exhibited fine specimens of *Datura Stramonium* (Thorn Apple), locally known as *Pommier du Diable.*

Mr. Luff reported the capture of a large Saw Fly *(Abia nigrocornis)*, extremely rare in Britain, and a large Dipteron *(Asilus crabroniformis).* He also stated that butterflies scarce last year are very plentiful this.

Mr. De La Mare detailed the geological work done during the excursions of the past month.

The Secretary stated that the "Proceedings of the Academy of Natural Science of Philadelphia, 1895," had been received. Mr. Collenette gave an account of the exploration of well-shaped excavations found at l'Ancresse, and recently explored by members of the Society. Their exact use was undetermined. Pieces of pottery found in one of them were also exhibited. The President also referred to Dr. H. Woodward's report on the bones found in the peat at l'Ancresse ; these were mainly those belonging to *Bos longifrons* and *Cervus elaphus.* He also read extracts from Professor Prestwich's recent work on Geology, in which he refers to the geological work of the Society, which in some measure goes to confirm the Professor's theories.

Monthly Meeting held October 9th, 1895, Mr. A. Collenette, President, in the chair.

Dr. Lacy was unanimously elected a member of the Society.

The President read a report giving various details concerning the summer excursions, which terminated on September 24th. Mr. Collenette also read a few most interesting facts about the abnormal heat of last September. These will be found on a later page of this number. Specimens of the rock at Les Tielles and at Dom Hue, which present a remarkable similarity, were exhibited.

Monthly Meeting held November 20th, 1895, Mr. A. Collenette, President, in the chair.

This meeting, postponed from November 13th, was so badly attended that no business was done beyond the reading of a letter from Dr. H. Woodward, stating that the small jaws found in the peat at l'Ancresse, and which he could not determine while in Guernsey, proved to be those of a dog or fox in the milk tooth stage.

Professor G. Henslow, to whom specimens of wood found in the same deposit had been sent for identification, stated in a note to the President that he had "examined the wood sent and could find nothing but hazel."

A detailed list of the bones, &c., found in this deposit appears elsewhere in this number.

Thirteenth Annual Meeting of the Society, held December, 1895, Mr. A. Collenette, President, in the chair.

Dr. Corbin was unanimously elected a member of the Society.

Mr. W. A. Luff read a paper on "The Diptera of Guernsey," with lists of species, and Mr. A. Collenette contributed short papers on *(a)* "The Sunshine of 1895 in Guernsey," and *(b)* "The Rainfall of 1895 in Guernsey." These three papers are printed in the following pages.

The Hon. Secretary then read the Annual Report of the Council as follows :—

"The Council, in presenting the 13th Annual Report, notes with pleasure the continued prosperity of the Society. The year just closed has been remarkable for the amount of field work done, rather than for the number of original papers

read. Ten indoor meetings have been held, and the average attendance for the year has been fairly good. Twenty-two excursions were arranged, but the weather interfered with the carrying out of two of them. The most largely attended one was that to the adjacent islet of Lihou. Much useful work has been done at these gatherings, and the Reports of the Sectional Secretaries on the result of the researches afforded, with the discussion thereon, abundant material for the monthly indoor meetings. Financially, also, these excursions proved a success, a balance of £4 7s. being handed over to the Treasurer. Slowly but surely the Natural History of the island, or rather the bailiwick, is being worked up, and the results of the investigations recorded in the Society's Transactions. And here the Council cannot but record its regret at the great loss the Society has sustained by the removal from the island of its late President, Mr. E. D. Marquand, to whom, perhaps, more than any one else, the Society owes its present flourishing condition. Coming to the island at a time when interest in the Society's work was at a very low ebb, when, in fact, it existed in little more than in name, Mr. Marquand, by his example and encouragement, infused new life into it. To his industry and research, as well as to the depth and breadth of his scientific knowledge, his many original papers printed in the Transactions of this Society bear ample witness. It is much to be desired that Mr. Marquand's zeal for everything connected with Natural Science may stimulate many members to follow in his steps. And in this connection it will not be out of place to remind members, especially those of ample leisure, what the late President urged in his farewell address a year ago, viz., that the whole field of Marine Zoology, as far as the Society is concerned, is practically untouched.

"During the year we have had an increase of 12 members, and at last the Society numbers over 100. It is pleasing also to remark that the finances of the Society are in a flourishing state, there being a balance in hand of over £7."

W. Sharp, Hon. Sec.

The Hon. Treasurer (Mr. W. A. Luff) then read a statement of the receipts and expenditure of the past year, which shows a balance in hand of £7 15s. 5½d.

REPORT OF THE ARCHÆOLOGICAL SECTION.

It is said all things come to an end, but really in Guernsey there is always something cropping up to make things look like new.

I think I have spoken about a stone to some of the members of this Society. It may not be of any importance, still it would be worth a visit the next time we are near the old Waterworks at St. Saviour's. The stone is on the right hand side of the gate entering the farm called "Terre Nergio," belonging to Colonel Simon, of Les Câches. The people occupying the farm know nothing whatever of its history. In the rough drawing accompanying this paper, observe the square mark which is cut down into the stone about three-quarters of an inch. The two lines forming the angle (42 degrees) are just visible. There is a small hollow cut down in the stone above the lower line like unto a cup mark.

Our last visit to the Isle le dom Hue gave me little information beyond what we already knew, and in my opinion it is not worth another visit.

There is a curious old trough in the farm house called "Les Fontaines," situated close to the Câtel Church, on the opposite or west side of the road. At the time I took this sketch, 1858, the farm belonged to our Guernsey poet, Mr. Lenfestey. The house was said to have been a convent, the nuns having a right of way to the church by a bridge over the road. The day I visited the house was on a Saturday. The trough was then used for holding buttermilk. No one seems to know when or how it came there, except that it belonged to the church and was supposed to have been used for baptisms. The drawing shows what is sculptured on the front or face of the trough. It is not an unusual thing to see mermaids illustrated in various ways, viz., as supporters to coats of arms, crests on houses, tombstones, on capitals of pillars in churches, &c., &c., but where did the sculptor who cut these mermaids get his design? If it was an original idea his brain must have had the same thought as his brother artist, a native of India. Look at the sketch before you of a mermaid cut on a stone I saw among the ruins of the old Fort of Richore in the Madras Presidency. This I saw about the year 1876. See how closely they resemble each other. Unfortunately, the Indian mermaid has lost her left arm, which I almost feel sure held the ring, or quoit, like the Guernsey mermaid. The trough in question is about 4 feet long, $2\frac{1}{2}$ feet high, and 2 feet broad, and I think is cut in granite. Look at the coloured drawing done before me by a

native artist in the Nagpore City Bazaar. This mermaid is represented worshipping the seven-headed Naga or Serpent. Another sketch represents a capital of a column in the Christian Church, near Brixham, Devon. The sketch in my book shows a double-tailed mermaid cut on a lozenge shaped stone on a house in the old Jewish quarter in the town of Newcastle-on-Tyne. The existence of mermaids is thoroughly believed in in Ireland and Scotland to this present hour.

Now please follow me across the road to the Câtel Church to look at the fresco on the northern ceiling. I fancy many of you have seen it, so that I need not say much on the subject, except that since I took this sketch in 1858, I find on a recent visit two other frescoes have been brought to light; they are on the right or east of the old one. What they represent I cannot say as the church was very dark. These were found in restoring the church, and have been very well taken care of by having a frame in cement put round them.

The only other fresco in the island is in the old chapel of St. Appoline, or rather there was one, for damp and ill-usage (for at one time this chapel was used as a barn) has almost obliterated what was once a life-sized picture, if one can judge from the heads just visible. No process could restore the colours. I should recommend that what is seen be outlined in pencil; this can do no harm and will retain what remains of a beautiful fresco. The inside of the chapel is almost hermetically sealed, so that damp has full sway. An opening should be made at the east end of the room so as to let a current of air through the building.

Months before the 25th June, 1894, the day the excursion party went to Lihou, I had remarked two of the upright stones on the south side in the interior of the Creux des Fées were leaning in very badly. I think I remarked this fact to some of the party on that day. Anyhow, when I visited it again about ten days ago, I saw a serious difference in the position of one of these uprights. A smaller stone had fallen on to this stone and wedged itself between two uprights, and so becoming the instrument of destruction. Earth had also fallen in from the back. I called a man who lived close by to come and see it. "Oh, yes, Mr. Carey, there is a great change. I used to sit here (pointing out a place) and smoke my pipe. Now I cannot; it is dangerous." I have mentioned this to several of the Jurats and others who have influence in matters of the States, and urged the necessity of putting all the Druids' altars and other antiquarian remains

in the island under proper supervision. Some of these altars are, I believe, private property. They should be, if possible, bought up and given in charge of some of the nearest neighbours. This ought to have been done years ago and thus have saved many a grand old land mark, viz., a Druids' altar at St. Andrew's, one near the Bailiff's Cross, another at Richmond, another at the back of Paysans, on the St. Peter's road to L'Erée, the Rocking Stone at the Vale, and many etceteras.

I found pebbles on the same hill as the Creux des Fées, about 350 feet to the south. The level of this find is 52·00. This makes this beach the same as the Rouvet, the Chapelle of the Vale, &c., &c. This information I have passed on to our President.

On the 17th September I found a cave between Les Tielles and the Watch House on Mont Herault. On the 4th December I again visited the cave in company with Mr. Nesfield. It proved to be larger than I at first thought; it measured 60 feet long by 18 feet high and 20 feet wide at the entrance; it then tapers to the end giving about 6 feet high and 4 feet wide. The floor is above high water mark. A slip has occurred blocking in the mouth of the cave and just allowing a person to creep in. All this part of the coast is worth a day's visit being quite a paradise for geologists. There is a cave a little farther on, just over the natural arch in the cliff, many of you may have seen. This cave is larger than the one above mentioned, and was the resort of a man for a week when he was being hunted for by the Custom House officers in the good old smuggling days. This cave is quite inaccessible now as a landslip has cut off the difficult path to it. "Les Confleurs," not far from the cave, is well worth a visit.

Mr. Nesfield acoompanied me to see the old building called "Colombier," situated about a quarter of a mile to the south of St. Peter's Church in the Wood. One would suppose from the name that it was once a dove-cot, but one can hardly suppose that the owner wanted walls 2 feet 10 inches in thickness, a doorway 3 feet 3 inches, and a circumference of 58 feet to be used for holding pigeons. At present it is only from 12 to 14 feet in height. The whole ruin is thickly covered with ivy, the stem of great thickness. The only information we could get from the owner of the property was that his father received five francs for putting the stones and rubbish inside the building, when the roof fell in, about eighty years ago. What the building was like he never heard,

but it was simply called "Colombier." Some seem to think it was a place of refuge, but a circular tower, 19 feet inside, could not have held many people for any length of time. Others suggest it being a land mark. It could only be seen from L'Erée Fort and Lihou Island, looking up the Valley from Rocquaine, a very small radius of sight. There is one thing strange about it, viz., that the owner cannot remove the ruin, so from this fact Government might have a right to the building and ground on which it stands. If so, surely there must be some official papers in the States Office.

J. James Carey.

REPORT OF THE BOTANICAL SECTION.

In Field Botany the year has been somewhat uneventful, only four new species having been added to the list, one of these, *Aquilegia vulgaris*, being probably a garden escape; the other three are, however, of some interest. *Primula veris* has long been known to occur here, but owing to its scarcity and the secluded spots it favours it has not, until now, been shown to the Society and placed on the list. *Anthriscus sylvestris* is one of the few very common English plants which are conspicuous by their absence here. It has been recorded three times only for the Channel Islands. *Datura stramonium* is interesting as belonging to the group of medicinal and mostly poisonous plants, of which *Atropa belladonna* and *Hyoscyamus niger* are familiar examples. These appear to have been largely cultivated by the inmates of religious houses in mediæval times, and generally occur in the neighbourhood of their ruins. In this instance the plant first found near l'Ancresse Lodge was afterwards traced by Mr. Hocart to the site of St. Michael's Priory.

Excursions.—The section was represented at 14 out of 20 of the excursions organised by the Society, and made one sectional excursion to Fort Doyle on June 4th.

Herbarium.—The four new species added to the list this year brings the total number recorded up to 718; of these 631 are now in the herbarium, leaving some 85 to be collected. Special efforts will be made to procure as many of these as possible during the coming season.

The 631 specimens referred to above have been mounted and arranged in proper order in cases provided by the Society, and were deposited in the Society's room in May last. A sectional meeting was held on Monday last in order to examine their condition, when they were found to be slightly mouldy

through damp ; measures have been taken to prevent further injury.

JETHOU.—In the brief notice of last year's excursion to Jethou, given on page 320 of our Transactions, it is stated that twenty new plants were added to the recorded flora of the island, but the list of names was inadvertently omitted in passing the Transactions through the press. These additional species were as follows, which, with the original list by Mr. Marquand given at page 80, now raise the number of Jethou flowering plants to 184.

Ranunculus hirsutus.
parviflorus.
Fumaria confusa.
Viola tricolor.
arvensis.
Lychnis vespertina.
Geranium dissectum.
Erodium moschatum.
Vicia lathyroides.
Achillœa millefolium.
Anagallis cœrulea.
Centunculus minimus.
Myosotis collina.
Echium vulgare.
Veronica serpyllifolia.
Stachys arvensis.
Mercurialis annua.
Juncus bufonius.
Arum italicum.
Bromus mollis.

By a curious coincidence both visits to Jethou by the Society were made at the end of June. Another visit in September might be repaid by the finding of an additional species or two, though probably very little remains undiscovered in the way of flowering plants and ferns.

Through the departure from the island of Mr. E. D. Marquand the section has lost its most expert as well as one of its most active members. The section desires once more to express its appreciation of the interest he took and the assistance he always so freely rendered in every department of its work.

Several specimens of plants difficult to identify are in the hands of experts for naming, and will be reported on next year.

The section also hope to furnish a complete list of the varieties recorded since the publication of the Flora with their next report.

PHANEROGAMS.—LIST OF ADDITIONS IN 1895.

Aquilegia vulgaris, *Linn.* Waste ground, Torteval; probably an escape (excursion).

Anthriscus sylvestris, *Hoffm.* Garden, Mount Durand (Messrs. Derrick and Royle). Lord de Sausmarez's grounds (the same).

Primula veris, *Linn.* Plantation, St. Martin's (Mr. G. Derrick).

Datura stramonium, *Linn.* Cultivated ground near l'Ancresse Lodge (Mr. Hocart).

T. C. ROYLE, Sec. Bot. Sect.

REPORT OF THE ENTOMOLOGICAL SECTION.

In the report for last year the great scarcity of Butterflies was noticed, especially of the two Garden Whites, *Pieris Brassicæ* and *Pieris rapæ*. During this year, however, these two insects have put in an appearance in increased numbers, greatly to the annoyance and loss of our market gardeners, &c.

Of all the Butterflies, however, the Small Copper, *Polyommatus phlæas*, has been the most abundant, appearing in the autumn in unusual numbers. They swarmed everywhere, in fields, gardens, and on the cliffs, and in many places more than a dozen could be captured with one stroke of the net. The Clouded Yellow *(Colias Edusa)* has been rather common during the autumn months, especially in September and October.

The two fine Hawk Moths, *Acherontia atropos* (the Death's Head Moth) and *Sphinx convolvuli* (the Convolvulus Hawk Moth) have been abundant, many specimens being brought to me from all parts of the island. Two species of geometrid moths, Haworth's Pug, *Eupithecia isogrammata*, and the Currant Pug, *Eupithecia assimilata*, have been added to the Society's list by Mr. Baker, a gentleman who has recently taken up his residence in the island, and who has made a study of this family of moths.

Three additions to the list of *Hemiptera Heteroptera* have to be recorded; of these *Gnathoconus albomarginatus* is rare and local in England.

Dr. Boley captured a specimen of the rare *Pseudagenia carbonaria* in the window of his house at St. Martin's. This interesting species belongs to the section of *Aculeate-Hymenoptera* known as *Fossores*, or Sand Wasps. It is rare in England and quite new to the Guernsey list.

Bryaxis impressa, a rather scarce species, has been added to the list of *Coleoptera*.

A number of spiders were collected during the year and forwarded to the Rev. F. O. Pickard-Cambridge, who finds two species amongst them which are nice additions to his list of last year, viz.:—*Segestria bavarica* and *Theridion tepiariorum*.

During this season particular attention has heen paid to the *Diptera*, or two-winged Flies, and a list of the species captured, numbering 144, will be read this evening. The total number of species of insects now recorded for Guernsey in the Society's Transactions is 1,422.

In conclusion, we have to deplore the great loss this

section has sustained in the departure from the island of our late esteemed President, Mr. E. D. Marquand.

Mr. Marquand, who is well known in England as an entomologist as well as an accomplished botanist, while with us, did much to encourage workers in this department of science, not only by his experienced counsels, but also by practical work in the field and study.

ADDITIONS TO THE LIST OF MACRO-LEPIDOPTERA.

Eupithecia isogrammata, *Tr.* The larvæ taken in abundance by Mr. Baker on its food plant, *Clematis vitalba.*

Eupithecia assimilata. Bred from larvæ taken by Mr. Baker on the leaves of the black currant.

ADDITION TO THE LIST OF COLEOPTERA.

Bryaxis impressa, *Panz.* One specimen taken at Grande Mare, Vazon.

ADDITIONS TO THE LIST OF HEMIPTERA-HETEROPTERA.

Gnathoconus albomarginatus, *Fab.* One taken at Saints' Bay on Whit-Tuesday.

Monalocornis filicis, *Linn.* Several taken near Pleinmont by sweeping.

Salda saltatoria, *Linn.* Not uncommon in wet lanes leading to Petit Bot Bay.

ADDITION TO THE LIST OF HYMENOPTERA-ACULEATA.

Pseudagenia carbonaria, *Scop.* One specimen of this rare species was captured by Dr. Boley at St. Martin's.

ADDITIONS TO THE LIST OF THE ARANEIDEA (SPIDERS).

Segestria bavarica.

Theridion tepiariorum.

W. A. Luff, Sec. Ent. Sect.

REPORT OF THE GEOLOGICAL SECTION.

SUPERFICIAL DEPOSITS.

1.—*St. Sampson's.*

The drain lately constructed from the south end of St. Sampson's Bridge to "Ambleside" has afforded an insight into the composition of the subsoil in this locality. Commencing at the end near the harbour an old beach is found resting on rather plastic yellow clay with irregular patches of sand and "souale." This clay is followed by underlying diorite rock, which outcrops at the Coucou Hill. This is followed by a hollow filled with clay and sand similar to that above mentioned, then another outcrop of rock about 20 yards in length along the road occurs nearly opposite the end of Brock Road. The rock in this case consists of "Birdseye" or Hornblende Gabbro. The remainder of the drain is sunk

in plastic clay with patches of sand and souale similar on the whole to that first mentioned, but in the portion between Antigua Villa and Ambleside the clay seems rather less plastic, and is overlaid by light purple-brown soil. The clay with sand nowhere shows any signs of stratification, and no pebbles have been noticed in it.

An excavation in a field to the east of the Hougue des Quartiers, now belonging to Mr. C. A. Renouf, also shows souale enclosing boulders of somewhat decomposed diorite. Bottom not reached at 6 feet depth.

Souale has also been exposed in a field bordering the Braye Road north of the Hougues Magues. Here it is only two feet thick and rests on an irregular surface of decomposed rock.

2.—*Norman Point.*

The old beaches exposed in the quarries have been re-examined. They reach up to about 60 feet above sea level. The head in some places contains small pebbles and rounded grains, chiefly of flint. Some cavities are seen both in the quarries at Fort Doyle and at Norman Point, apparently due to the washing out of the old beach from under the more compact head. It has been suggested that these cavities may be older than the opening of the quarries, but this has not been ascertained.

3.—*Neighbourhood of Vale Church.*

Patches of old beach exist in depressions of the rocks in "Baie des Amarreurs." The rocks themselves are much disintegrated. The old beach is below the level of spring tides, and is consequently being washed away.

At a spot called "Les Fontaines Marche," on the beach south of Mont Cuet, peat from 8 to 15 inches deep has been noticed. The only identifiable organic remains were flag leaves and one or two small twigs.

4.—*L'Ancresse Bay.*

The peat in this locality has been excavated under Mr. J. L. Hocart's guidance. It lies directly north of the targets in a small flat space between outcrops of rock. At times it is buried under a thick covering of sand, but on the occasion of the Society's visit it was exposed, although an almost continuous layer of large pebbles had to be removed before digging operations could be commenced. The peat is not pure, but contains a considerable proportion of sand. A space about six feet square was excavated to the depth of about two feet,

the bottom of the peat not being reached. The vegetation consisted of a few flag leaves, bunches apparently grass, and numerous twigs, branches and roots since identified as hazel. The larger twigs were compressed. But the special object of the Society's visit was to search for bones, some having already been found in the same locality by Mr. Hocart. In this search the Society was not disappointed, as numerous bones and some teeth were dug out, which, together with a few others subsequently brought in by individual members of the Society and friends, have been identified by Dr. Woodward, of the Natural History Museum at South Kensington. A list will be found at a later page in this number.

Two pieces of coarse pottery and half of a polished stone ring were also found. The inner diameter of this ring is about three-quarters of an inch, the exterior diameter two inches and a quarter. The material is fine grained diorite (not talvane).

5.—*Les Vardes to Pulias.*

In the smaller or more westerly of the Vardes quarries pockets of old beach are visible, also in the cutting along the road to the west. The greatest elevation would probably not exceed 30 feet above mean sea level, while on the neighbouring beach (as in Grand Havre) the same old beach extends to below high water level. In the Vardes Quarry pockets filled with old beach are found under large decomposed boulders, some of which boulders seem to have been rolled, while others have only slipped a short distance along the jointing planes. In the Pulias beach quarry good sections of old beach are seen; one is noticeable for the quantity of red granite, sandstone and jaspery quartz pebbles it contains. (Similar pebbles are also abundant in the modern beach adjoining). The old beach is seen to pass under head three or four feet thick. Sea-washed outcrops of rock are found in the fields extending to 150 yards from the present shore line.

The great rock at the projecting point east of Pequeries Bay is one of the most extraordinary specimens of riven rocks in the island. The immense blocks have separated along the jointing planes, and slipped outwards in every direction. The largest block measures 35 feet by 16 feet by 12 feet, and is estimated to weigh 300 tons. It has not only slipped, but has turned over, and is lying on old beach and head, which rest upon a sea-washed face of rock. Head and hardened clay also underlie several of the other blocks. The indications are in favour of the fall and sliding of the rock being subsequent

to the deposition of the beach and head, but nevertheless of very ancient date.

Pebbles are reported by Mr. J. J. Carey from the summit of Rocque Roussel near Noirmont, 68 feet above mean sea level.

6.—*Neighbourhood of Castel Farm.*

In the lane near the Douit, which separates the Castel and Vale parishes, pebbles occur in head.

In the small quarry on Castel Farm there is a pocket containing pebbles mixed with angular stones. Elevation above mean sea level about 60 feet.

In the quarry opposite Lilyvale large and small rounded boulders up to 5 feet occur in the head. Although not *in situ* they have probably been derived from disintegrating rock in the immediate neighbourhood, as similar boulders occur *in situ* in the decomposing rock of the quarry.

7.—*Neighbourhood of Le Camp, Castel.*

Peat covered by about two feet of soil is reported as existing in the lower part of the fields opposite La Hougue. The outcrop would be about 400 feet nearer the shore than the house called La Hougue (at the foot of the hill on which the tower called Le Griffon stands), and the elevation about 50 feet above mean sea level. This is probably the margin of the deposit under the Grande Mare and Vazon Bay.

8.—*Les Choffins, Castel.*

In a quarry nearly opposite this farm house there is a deposit reaching up to 8 feet in thickness, remarkable for its sandy nature, being chiefly composed of sand, though clay occurs in several regular seams or layers from half an inch to one inch thick. This deposit fills a trough parallel to and some distance to the south-west of the present valley, which is excavated to a lower level. A corner of the same deposit is also exhibited in a smaller quarry to the west of the principal one. The underlying rock, though much decomposed, has a remarkably smoothed surface, sloping towards the deposit.

9.—*St. Saviour's.*

Various exposures of clay are seen in the neighbourhood of the church. One in the bend of the main road south of the church shows interstratified sand and clay.

A section half way between St. Saviour's Church and St. Peter's Arsenal has been noted, showing

Sandy clay with pebbles,
Sand, containing rounded grains, 3 feet.

The raised beach at Rouvets has been traced by Mr. J. J. Carey in Mr. Simon's orchard. Elevation above mean sea level, about 70 feet.

10.—*Perelle Bay.*

The peat in this bay has been examined. The thickest part dug into was only 14 inches deep and underlaid by sand. Flag leaves and some roots were found, but no bones. Grass was found in the underlying sand. The peat dips seaward at a less angle than the slope of the beach, consequently it outcrops seaward. Beyond the outcrop of the peat a bluish-green clay occupies the depressions between the rocks, which clay was proved to be derived from the decomposition of the talvane diorite veins in the neighbourhood.

11.—*Lihou Island.*

A raised beach exists in the less exposed spots both north and south of the island. It is as much as 8 feet thick in some parts, and its base is generally concealed under the shingle of the modern beach. In the cove immediately south of the priory ruins the stones in the old beach are nearly vertical, indicating a storm beach. Flints and other stones not of local origin are as usual present in the old beach.

12.—*St. Peter-in-the-Wood.*

A high level beach has been discovered by Mr. J. J. Carey about 300 feet south of the Creux aux Fées, at l'Erée. Its elevation above mean sea level is 52 feet.

Leaving the main road near Le Douït de Beuval and turning by the first lane to the right (which leads towards Le Colombier), a section is exposed showing head three feet thick, at the base of which some pebbles occur resting on the decomposed rock. This rock is sheared and curved in the direction of the valley to the west.

On the slope overlooking the south-east corner of Rocquaine Bay some earthy head containing pebbles and flint flakes lying at no great depth was noted. Height above mean sea level, about 100 feet.

13.—*Torteval.*

In the lane east of Le Colombier a section is exposed showing :—

Head, 2 feet.

A well defined line of angular pieces of rock, clay and sand, with pebbles, 3 feet.

The underlying decomposed rock has its surface bounded by a well marked line.

ROCKS.

1.—*Granite Veins in Talvane near Ruettes Villa, Castel.*

Talvane veins abound in nearly all parts of the island, cutting both the gneiss of the southern parishes and the syenite and diorite of the northern, but they have not been observed in the Cobo granite. On the contrary, these veins when occurring in the gneiss adjoining the granite are cut off by the latter, as may be seen in Mr. Falla's gravel quarry referred to at page 329, volume 2. An example of granite veins in talvane occurs in a quarry at the back of Mr. H. Duchemin's property, Ruettes Villa. Although in this case the connection of these granite veins with the Cobo mass cannot be traced, it probably exists. The talvane diorite occurs as a vein 50 feet in width intrusive in gneiss. Its strike is S. 20° W., its dip nearly vertical, but varying. This talvane is intersected by numerous jointing planes, the most marked of which have a strike of E. 65° S. with a dip of 70°, but two of the jointing planes belonging to another set nearly at right angles to the first mentioned have served as channels for the intrusion of thin sheets of granite, one an inch and a half thick, the other three-quarters of an inch. These veins are very even, but the thinner one is displaced by faulting to the extent of about a foot. The fault is caused by the slipping of the rock along a number of the planes belonging to the first mentioned set closely adjoining each other. Thus the series of events appears to be as follows :—

1. The intrusion of the diorite in the gneiss.
2. The formation of the second set of jointing planes, either accompanied or succeded by
3. The intrusion of the granite in the diorite.
4. The formation of the first mentioned set of jointing planes, either accompanied or succeeded by
5. The faulting.

2.—*Lihou Island.*

The predominating rock is porphyritic gneiss. This gneiss is also found on the opposite mainland and is exposed at every point of the causeway uniting Lihou and the mainland. Thus a good opportunity is afforded of noting the gradual change in the foliation. On the mainland the rock is but slightly laminated, but going westward the crystals of felspar become more and more flattened into lenticular patches and eventually into thinner and thinner laminæ. These laminæ, at the extreme west point of the island, have a dip of 65° S.E.

The intrusive veins of amorphous diorite or talvane are very numerous, and on the whole run parallel to the lamination, but with numerous discordances arising from irregularities in their courses. These veins occasionally contain inclusions of gneiss. An instructive example of the relations between gneiss and diorite of the St. Sampson's type (not to be confounded with the talvane veins above referred to) can be seen in the cove south of the priory ruins. The diorite here occurs as a boss which blends with the gneiss on one side, but is penetrated by numerous granitoid veins which seem connected with and derived from the gneiss on the other side. The relations of the rocks in this locality are similar to but not so complicated as those observed at the Bathing Places, Fort Bay and the north horn of Fermain Bay.

3.—*Granite Veins in Syenite at Pulias and Portinfer.*

Many granite veins occur in syenite in these localities. Some are seen in section presenting round or oval spots two or three inches in diameter, which at first sight resemble inclusions. The granite is pink, and there is not the slightest blending between it and the syenite, but rather a tendency to separate at the junction.

4.—*Granite intrusive in Diorite in the neighbourhood of Vale Church.*

The large quarry north of Vale Church is worked in a boss of diorite, but the west side of the quarry and the rocks on the adjoining beach consist chiefly of a coarse syenitic granite which is intrusive in the diorite and contains numerous inclusions of the same. This syenitic granite does not resemble the Cobo granite, and is probably more ancient, as talvane veins occur in it.

5.—*Felsite Veins and Mica Trap Vein at l'Erée.*

Three veins of felsite cross the porphyritic gneiss south of l'Erée promontory in a N.N.W.-S.S.E. direction. The principal vein was traced 120 yards. It is intersected by several faults, one of which displaces it horizontally by about six feet.

These veins are cut by a mica trap vein. The direction of the latter is N.E.-S.W.; its dip 65° S.E. The gneiss near this vein is altered and disturbed.

C. G. De La Mare, Sec. Geo. Sect.

After the reading of the Sectional Reports and the President's Address, all of which are given above, the election of the Council for the ensuing year was proceeded with. Mr. A. Collenette as President, Mr. W. A. Luff as Honorary Treasurer, and Mr. W. Sharp as Honorary Secretary were unanimously re-elected ; and as Committee, Miss M. Dawber and Messrs. J. J. Carey, C. De La Mare, G. Derrick, J. S. Hocart and T. C. Royle.

ADDRESS OF THE PRESIDENT,

MR. ADOLPHUS COLLENETTE, F.C.S.

———o———

Ladies and Gentlemen,

The year we now complete has not, as you will have gathered from the sectional reports, been an idle one. Every section has added to our store of knowledge, and if we grant that more might have been done, still we, as a society, have reason to be proud of what has been done.

I do not think it desirable that I should pass in review the work of the Society as a whole, even if I felt competent to do so, but there are a few thoughts to which I should like to give voice, before I plunge into the main subject of this address.

The Society has, as you know, worked this year almost entirely by means of its systematic excursions, and any good that has been accomplished has to be credited to these excursions. To Mr. Derrick, I think, we owe this method of work. It will be remembered that that gentleman tried, years ago, to get walking parties to go and see this or that place of interest and to get botanical members to unite for rambles on given days. He succeeded and worked, by means of the pressure of his individual influence, a fair number of informal excursions. The Society then woke up to the value of this method of work and organised systematic excursions. These have been so arranged that the whole island will be examined in detail in the course of time.

Excursions are not, however, equally valuable to all sections, and it frequently happens that what will suit one study will not another, but, take them as a whole, I think that the success of this Society has been largely due to them, and I press on the Society the importance of continuing excursions with energy and vigour.

In reviewing the events of the year we find that we have to regret the loss of our late president, who has left the island since our last anniversary meeting. Mr. E. D. Marquand is an earnest and enthusiastic botanist, and he has left his mark on the record of our doings. He will always be associated with the prosperous and successful period which the Society has

just passed through. He will also be remembered by us as an efficient leader, an earnest worker and a dear friend. Whilst giving most of his attention to botany, we have cause to remember that he was learned in many other branches of study.

Fortunately for us we have still among us members who are able to follow on in his footsteps and carry on the work of the Society with fresh energy and fresh determination. Our Botanical Section, led by Mr. Royle and Miss Dawber, will not fail us; they will, during the coming year, no doubt, complete their flora, and then they will be free to study the flowering plants of the island with a view to determine how many and what kind of variations have occurred in our isolated flora. We want this knowledge; we wish to know not only what plants exist, but if the conditions under which they exist here are different from those under which the same plants exist elsewhere. We also want to know if any noteworthy variations have arisen in plants that have been growing here since the last separation from the continent, as well as any and all other points of scientific interest appertaining to their work.

Entomology also has work to do on the same lines; for variations of insects under changing external conditions will no doubt be found to have affected ours. We have to congratulate ourselves on the very forward state of the lists, and I think that all will agree that Mr. Luff's name will be indelibly associated with Guernsey insects as long as those insects shall be studied.

I think it a matter of great regret that, though the Society has been so many years in existence and has been so successful in its sectional work, no student of Marine Zoology has appeared among its members. Surely in an island like this, with its immense advantages for the study and its known adaptibility for the work, some one will take up this entertaining and useful study and associate himself with us. If not, then some of the active members now working in other sections must turn their attention to this subject and save the Society from the slur of being on a small island, one of the best adapted for marine zoological work, and yet unable to show a single working member in that branch of study.

Whilst interested in all the work of the Society I feel that I am more competent to speak of the geological work than of that of the other branches, and you must bear with me if I again take a ride on my favourite hobby.

I have spoken of changing external conditions and the possible influence which these changes may have had on

flowers and insects. But while we ask our botanists and entomologists for information on variations, we should look to, and we do look to, our geologists to give us the evidences of the changes we suspect. We must be sure that geological and climatic conditions have changed, and in what directions.

It is with feelings of pride in the section to which I have the honour to belong that I draw attention to the work that has been accomplished by the indefatigable members of that section. I may, I think, claim that work of some importance has been effected by the persistent examination of the l'Ancresse peat bed by Mr. Hocart, to whom the Society is deeply indebted. You will find on reference to the printed detail that the bones, first found by Mr. Hocart, and then under his guidance by the Society, has linked our times with the late neolithic period, during which the cromlech builders were hunting red deer and wild boar through a forest which existed where we now have a sandy bay and deep water. The bones of the deer found are sufficient to prove to us that we have not found all that exist there, and I say now that the Society will miss a great opportunity if they allow the matter to end here. The deposit should be systematically worked next year. Whilst alluding to Mr. Hocart's work in this connection it may be permissible for me to ask your attention to the underground openings which, through Mr. Hocart, the Society has viewed. There is a great difference of opinion as to their use. I think the literature of the subject should be worked up by a sub-section appointed for the purpose, and a full discussion be had as soon as we are acquainted with the uses of like structures found elsewhere. In the meantime, possibly we may persuade Mr. Hocart to look for others in the same district.

The geological work of the year has largely consisted of routine work, adding persistently to the detail as to the numbers of dykes, their features and directions, and such useful but uninteresting every day work, the importance of which will only be evident when generalisations come to be made from the accumulated data.

One great problem has, however, been mooted by the section, for the work of the year has placed before us the question "Has Guernsey been involved in the glacial conditions of the so-called 'Ice Age'?"

We have hitherto been content to accept the statement of English geologists that no marks of glaciation are to be found in the south of England, and that therefore we were free from, because outside of, glacial phenomena and influence.

We have now seriously to consider the question as to the truth of this deduction. To Mr. De La Mare belongs the credit of having first upset our minds on this subject. As you all know, he has persistently brought to our notice the fact that all through this island there are two important things to be noticed. 1st. That where quarries are open on the sides of hills the veins of diorite, quartz or felsite are commonly bent in the direction of the slope for some eight to twelve feet from the surface, though true to their original position below that. 2nd. That the rocks are often crushed and displaced as though forced along by some power acting in the same direction. These points have been discussed at several meetings, but their importance has been very much intensified by the facts that have been noticed by the Geological Section this year.

We have had our attention attracted to the straightness of the line which separates the rock proper from the clay coating in many places. No doubt can exist, I think, about the fact that the clay which covers the rock does not, except in a few cases, belong to the place in which we find it. It exists as a mantle covering up the rock outcrops and resting on rock, which was solid at the time, but is now decomposed. But we should naturally expect the rock surface to be irregular, with pointed peaks and protrusions ; this, however, we do not find to be the case. The rocky slopes of the hills must have been, in most cases, quite smooth before the deposit of the clay. The direction in which this smoothing-off runs agrees too, in the main, with the bends that Mr. De La Mare has noticed. The inference, therefore, is that before the deposit of the clay the hills were rounded off and smoothed down in the directions of the slopes. This phenomenon, I unhesitatingly say, points to ice action as a cause.

Some time ago there were found at the St. Andrew's clay quarry two pebbles which had marks on them which we were justified to think may have been striæ or ice scratches. At the time we picked these up we had not attached the importance that we should have done to the planed rock surfaces, hence this additional evidence did not attract the attention it would do now. The Society has, therefore, during the next year, to see if the evidence it can collect will go for or against the idea of glaciation.

There are other points that should be mentioned in this connection. One is that we have two different kinds of clay, An unctuous blue clay, of the origin of which we can have no doubt, because we see it in course of formation on our coasts. This kind is formed directly by the disintegration of the

close-grained blue diorite, which is found so commonly in dykes, under the united action of the sea and air between low and high water marks. No doubt it spreads a little, but it nevertheless remains strictly localised. Not so the yellow clay. This may have originated in the decomposition of the gneiss of the island, but it has been moved backwards and forwards, or far enough to have its grains of quartz rounded, and has, as I have said before, been deposited on a smoothed rock. Not only this; the agent which has deposited it has acted with intermission, for the clay contains well marked layers, such layers being formed by variations in the proportions of the clay and sand.

As the Society will remember, I stated in a paper read in 1892,* that with the evidence then before me I felt all we could do was to look upon the yellow clay as associated with the cliff-heads and raised beaches, offering additional evidence of a submergence. At the same time I mentioned the fact that I had come to that conclusion with full knowledge that the evidence against the association of the clay with a submergence was strong. Now I feel that there may be another explanation which, in a few words, I shall state, but I wish to be free and to leave you free to give full weight to any other theory or evidence which may be advanced to account for the clays.

The conclusions as to submergence, resting on the evidence of the raised beaches, are not affected; this year's work had added to the evidence and established the submergence beyond doubt. To-night Mr. J. J. Carey tells us that he has added another high level raised beach deposit to the list. This occurs at l'Erée, opposite Lihou, and not far from the cromlech, and is 52 feet above mean sea level. It, therefore, belongs to the Capelles series of beaches. The proved association of the clays with the cliff-heads and the partial stratification of the clays remains untouched, but the work of the year has increased the number of ways by which we may account for the clays, and it is, I think, no longer absolutely needed to associate them with an actual submergence. The action of water in their distribution and stratification cannot be given up, and is so evident that I think we may be excused if we hesitate before separating them from the submergence that we have other evidence of.

The proofs of submergence are to be found in the sea-washed rocks at elevations up to 76 feet above mean sea level; in the beaches which exist in company with sea-worn rock up

* Transactions of the Guernsey Society of Natural Science for 1892, pp. 219-235.

to 76 feet also (the highest being the Rouvet patch, 75·10 feet), and the presence of pebbles in the clay, which must have originated from some higher beach not yet localised, possibly completely removed at the time of the distribution of the clay.

But the evidence before the Society now adds to the number of explanations, for above the level of the highest sea-washed rock is found the planed and contorted rock surface—a phenomenon which must have a different explanation.

Professor Prestwich tells us that our clays are locally produced during the submergence, and that they were spread over the island by the action of currents of water during the sudden rising of the submerged island in a series of intense shocks.* Against this we now must place the fact that the clay rests immediately on the planed rock, where the latter occurs, and that all the usual forms of marine life are entirely wanting in the clays, its stratification and its rounded grains being the only sign of water action.

Having discovered the planed-off surface of the rocks composing the hills, we are not reasoning wildly if we refer the cliff heads to the effect of aërial cold; the one supports the other. The angular pieces of rock, which have only fallen from above and rest everywhere on the old raised beach, may have well originated during a cold period. If this reasoning is correct we have before us the problem of accounting for submergence on the one hand and aërial denudations during extreme cold on the other.

The sequence of events would seem to be something like this. A submergence of the island to the level at least of its highest summit. The continued action of the sea breaking down all the cones and peaks on the upper plateau and producing the present fairly flat table land. The sea, permeating into the rock during that period, decomposed the rock to a considerable depth. This submergence is proved beyond doubt, nor need it be questioned because it is consistent with the evidence of the surrounding coasts. From Scotland to Cornwall, on both sides of the Channel, we find the same evidences of submergence.

Following the submergence, if we may give weight to the evidence of glaciation. came a period of elevation and local glaciation. The decomposed and weathered rock breaking up in all directions under the action of the cold falling from high to low levels, forming the cliff heads as far as their rubble

* On certain phenomena belonging to the close of the last Glacial Period by Professor Prestwich. Fols. 43 and 27.

portion is concerned, and grinding a good deal of the higher decomposed rock into clay. while the weight of the superimposed ice, the accumulation of many years, planed off the hill slopes and disturbed the rocks.

Next came a period of comparative heat, a great melting of the ice in successive summers and re-glaciation in successive winters washing down clay and sand from the decomposed rock, filling up hollows and the interstices of the rubble of the cliffs, spreading it out over the planed rocks, filling up the lower valleys, in fact, using an immense mass of decomposed material left on the top of the island by the sea to cover over all the lower levels with sand and clay. This, supposing that it is found consistent with the facts, accounts well for the local character of the clay, so firmly held to by Mr. Derrick, for the presence of pebbles in the clay, washed down from a higher level, for the presence of clay in the upper raised beaches, and for the "talus" like look of some of the beach deposits, the latter having been redistributed or moved by the rush of local waters.

I do not wish to do more than indicate the probable line that our thought will take, nor do I wish to say that the explanation here offered must be the correct one. We are a scientific society, and as such must judge by the evidence before us only; at the same time, while using theories to assist us in the collection of evidence, we must be free to move from one theory to another, as the evidence demands, using our theories only as stepping-stones, useful as long as they fasten us to a forward course, but not to be blindly adhered to in the face of contrary knowledge.

One point more and I have done. The more I think of the clays and their peculiarities the more I see that some explanation must be worked out. The first point to be mentioned is that there is always a well-marked line of separation between the deposit and the decomposed rock. I know that in this statement I have Mr. Derrick against me,* and that he thinks that they pass the one into the other. I have re-examined many places lately and am conviuced that there is always a line to be seen where vegetation has not interfered. Again, we have the great depth to consider. We have measured 14 feet at the Forest, 20 feet at the Vale, behind Delancey Hill, and even 30 feet beyond the last named. In the Vale the clay rests on previous sandy deposits as well as on decomposed rock. Now it seems to me that a purely local origin is not consistent with the great depth any more than

* Transactions for 1892, pp. 212-218.

with the rounded grains, but the long continued ice-wash would cover the ground.

In reviewing the work of this Society, Mr. J. F. Blake* states, evidently from his study of our papers, that "flints are hard to account for unless they have been brought there by the hand of man." I cannot think that anything we have said could be so construed, for though the statement would hold good for flint-flakes, the occurrence of flints in our clays at all elevations can point to one thing only, and that would be the deposition of chalk over our island, chalk which the last submergence has washed away while it left flints in large numbers behind.

Ladies and Gentlemen,—I think you will see with me that if these questions are to be handled and investigated by our Geological Section there is no immediate fear of its dying of inanition. I close this address with an appeal to all our members to aid the Society in its work, to further its objects as energetically as possible, and last, but not least, to do their utmost to increase its numbers and thus increase its funds and its usefulness.

* Annals of British Geology, 1893, p. 10.

NOTES ON THE MARINE WORMS OF THE CHANNEL ISLANDS.

BY MR. JAMES HORNELL.

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No. I.—INSTANCES OF COMMENSALISM.

PERHAPS among no other group of animals is Commensalism —as contrasted with Parasiticism strictly so-called—so common as among the *Polychæta* or marine bristle-bearing annelids. The form taken is generally that where the worm takes up an uninvited abode with another animal better fitted than itself for coping with enemies, so obtaining a welcome shelter. In return for such hospitality, the worm gives little or nothing, though the negative virtue of occasioning no inconvenience or injury to the host must in justice be recorded. Most of the families of the annelida count some member among them exercising this habit, but undoubtedly the chief exponents of this cunning art of safety-seeking are to be found within the ranks of the scale-backed worms—the *Polynoinæ*. Running through the list of this particular family, we find almost every other species adopting some queer one-sided partnership with another animal. Such habit argues intelligence of no inferior order, and it is significant to note that the *Polynoinæ* stand at the head of the annelida as the most highly organised of the class.

Our district is rich in examples of this habit. Whether we go out with the dredge or follow a good spring tide as it recedes and hunt for specimens in the profuse richness of the Laminarian zone, instances in plenty reveal themselves to the watchful eye.

Let us first select a friendly fisherman, who, like the skilled farmer of the sea we know him to be, is acquainted thoroughly with the living harvest of the submarine fields we wish to visit. With such able assistance and the help of our own annotated chart—the latter the sum total of our gleanings from previous trips—we shape a course for the deep water that lies between Guernsey, Herm and Sark on the one hand

and Jersey on the other. There we throw over the dredge, and when it is soon hauled in, most conspicuous of the treasures brought up are numerous fine examples of that most beautiful of the heart-urchins—the purple Spatangus (*S. purpureus*). Each of these we eagerly search with shrewd idea of the result. Yes, there on the underside, clinging flat and close to the test, or maybe wriggled among the spines, is a pretty inch-long scale-worm, *Polynoë castanea*. So far I have never found this worm elsewhere than in company with *Spatangus;* generally in a position close to the mouth, the number upon each host being limited to a single individual. This little worm is extremely beautiful; the fifteen pairs of scales (elytra) which cover the back like so many pairs of dainty-hued tiles are coloured on the exposed parts a rich lavender-purple, so closely approximating in colour to that of the host that an unpractised eye may well be excused if it be overlooked. In spirit the colour fades to a madder-brown.

Upon the irritation of being roughly handled or that which follows immersion in spirit, this animal, like so many of its relatives, immediately breaks up into pieces—a habit undoubtedly acquired with the view and in the hope that the portion remaining with the head may escape to a place of safety in the confusion ensuing; when, too, the attention of the foe may be occupied with the devouring of the worthless though still wriggling hinder parts of the body. The powers of recuperation in these worms are very great and the loss of a few of the hinder segments of the body is of trifling moment. But to return from this digression. In most of the *Polynoinæ* the rupturing of the body under the influence of danger or irritation may take place indefinitely at almost any segment of the body. *Polynoë castanea* is, however, curiously characterised by the fact that the severance very generally takes place at one particular region—just about one-fifth of the length of the body from the head. Sometimes in those thrown into spirit the animal dies just after the body wall has divided and before any corresponding rent has occurred in the thick wall of the alimentary canal. In these latter cases the severed ends of the body wall shrink widely apart, giving a grotesque appearance of one small worm linked to a long one by a stout fleshy bar.

Beyond the comparative security enjoyed by living among the spines of such an unappetising creature as *Spatangus*—the habitat is probably attractive to the commensal worm by reason of the multitude of tiny crustaceans which also seek hiding places among the spines of the urchin. Then again

the sand scooped up as *Spatangus* feeds, harbours many other tiny animals, for which, no doubt, *Polynoë castanea* keeps a keen look-out.

Quite a common habit of many of the Amphipods and other minute crustaceans is to take advantage of dark nooks and corners as temporary lurking places, such for instance as the open ends of large worm-tubes, and hence several *Polynoës* have found it advantageous to take up life-long abode with the owners and builders of such tubes. Two—*Polynoë setosissima* and *Nychia cirrosa*—have selected as their host that most curious of our local tube-building worms—the ungainly *Chætopterus*. The tubes of this last mentioned worm are not uncommon in the dredge off Herm, and on the shore there at extreme low water the two projecting ends of their tubes—they construct U-shaped ones—are often to be seen. If we dig up an inhabited one and tear it open, one or other of the two species of *Polynoë* I have mentioned is sure to be found. Both are large, among the largest of our local species, and *P. setosissima* is perhaps the most elegant of the family; the bundles of pale golden bristles arming its many feet are stout and long and projecting like so many grouped and serried banks of gilded oars, and recall to one's mind those wonderfully-dight state barges rowed by a myriad oarsmen in which the Doge of Venice of old used to wed his glorious city to the beneficent Adriatic.

Another tube-worm, *Terebella nebulosa*, sometimes gives hospitality to *Polynoë johnstoni*, Marenzeller (*P. scolopendrina* of previous British writers), a much elongated species, which on account of this very length of body is dependent to a great extent upon the protection of a host's tube. The only two *Polynoës* of great length which I have met with in British seas are the present *P. johnstoni* and the equally long *Acholoë astericola*. The latter is much more thoroughly commensal than the former, its only known habitat in our seas being as guest of the pretty starfish *Astropecten aurantiacus*, where it lies stretched along one of the ambulacral grooves.

It is appropriate to mention here that such of the *Polynoës* as are unmistakably free and non-commensal are all of short length. It is obvious, other things being equal, that the longer the body the greater must be the danger of capture, and the inference is that without some device for gaining artificial protection, the long forms would soon cease existence under the grinding competition for life ever waging among animals. As proof that shortness of body is of the highest value to free-living *Polynoës*, we have to note that the commonest and characteristic free species of the district,

P. propinqua (*P. floccosa* of M'Intosh), is short and squat, scarcely an inch in length, while the commensal species run to four and five inches. The common free *Polynoë cirrata*, which takes the place of this species in northern seas, is characterised by an equal shortness.

Yet another local species, *Polynoë marphysæ*, is commensal; this time with the great rock worm, *Marphysa sanguinea*, which excavates and lines long tunnels in the rocks so generally round the coasts in these islands.

There are other British *Polynoinæ* known sometimes to be commensal, which here I have not, so far, met with pursuing this habit, viz., *Hermadion pellucidum* and *H. assimile*. In the Irish sea I have found the former crawling upon *Astropecten*, *Solaster*, and *Ophiothrix*. Here I have found it, but in a free state, crawling over a tuft of *Polyzoa* in a coralline pool. *H. assimile*, found sometimes upon *Echinus esculentus*, I have never seen in these islands. The *Acholaë astericola* mentioned above is also absent from my list of local annelids, probably because I have not had an opportunity of examining any local *Astropecten*.

Several of the *Syllidæ* are, I believe, commensal, but the only one met with here is *Syllis (armillaris?)* within the mantle of *Ascidia mentula*. This is the only case I have seen of direct commensalism between Ascidian and Annelid, but there are several very important instances of an indirect and occasional relationship between these two groups deserving of close attention.

Downwards, from a little above low-tide mark, the sheltered surfaces of the rocks in our islands are often literally hidden by closely packed dark red bladder-like Ascidians (*Styelopsis grossularia*) and occasionally at a low horizon these red walls are replaced by masses of shapeless, hueless *Ascidia mentula*. If we scale off a mass of this Ascidian mantle, at the cost of sundry too-well aimed squirts of salt water from a myriad of miniature nozzles, we find, on close examination, quite a motley assemblage of annelids, comprising far-sundered species, living in tubes meandering in and out among the Ascidian individuals. The worms inhabiting these tubes comprise, among others, *Eunice harassii*, *Lumbrinereis latreillei*, *Dasychone dalyelli*, *Sabella saxicava* and several *Syllidæ*. Except *Dasychone* and *Sabella* these belong to the Errant Annelids, which are as often as not as inveterate tube-builders as the Tubicolous Annelids of our Zoological Text-books—a proof, if it be needed, of the difficulty of framing faultless titles for the various groups of the animal kingdom.

The various species named have been brought together by no single cause but by several interacting interests of which I shall now proceed to attempt the explanation :—The rougher a rock surface be the better shelter will it naturally afford to weak and defenceless animals; thus the bright green worm *Eulalia viridis*, on a lime-stone coast, where the rocks and boulders are perfectly honeycombed by erosion, is found in wonderful profusion, while on an adjacent one of smooth surfaced schist or slate it is all but absent. Now the Ascidian-coated rocks of our district are almost a parallel in roughness to a much eroded limestone surface, there being every grade of size among the Ascidians, from an eighth to one inch in height. The Ascidian colony once started is a nucleus around which much diverse life gathers. Spores of algæ settle and grow; minute crustaceans gather round, amphipods, isopods, pycnogons; first one worm and then another takes up lodging between and among the Ascidians, and with the growth of the colony, the tubes first constructed become covered and protected, for *Styelopsis* seems to be left severely alone by all manner of beasts. I have never seen sign of it being browsed upon.

As to food, this strange assemblage of animals may be said to be self-supporting. The Ascidians, by means of their inhalent currents, gain possession of minute life—diatoms and the like—from the surrounding water; the crustaceans feed upon fæcal matter, algæ and minute animal life, and the worms upon the crustacea, forams, and diatoms that abound.

The final instance which I shall give is perhaps the most interesting of all, as hitherto it has been undescribed. My acquaintance with it dates indeed only from the 8th November, 1892, when, being out collecting at extreme low water mark at the Grêve d'Azette, Jersey, my attention was attracted to several large patches of a crusting orange-red sponge on account of the peculiarly emphathic markings of what appeared to be the oscula. Being suspiciously unlike anything spongiform, I secured some good sized pieces of the sponge for microscopical examination at home. Sections proved them to belong to the *Microciona plumosa* of Bowerbank ("British Spongiadæ," Vol. III., page 61), but the supposed oscula which, to the naked eye, appeared as innumerable tiny black specks, each surrounded by a grey circle, turned out to be in reality the ends of tubes tenanted by an eyeless species of Leucodore (*L. cæca*, Œrsted). Within the space of a square inch upwards of forty could frequently be discerned.

The conclusion I come to, after examination of a large number of specimens, is that actual benefit is mutually given and received by each of the two messmates. The sponge certainly gains considerable support and extra consistency from the comparatively numerous wiry upright tubes of the annelid —and there is also the question whether the excreta of the worms is of any food value to the sponge. On the part of the commensal worm there is little doubt that it finds a valuable protector in the sponge, which, it is noteworthy of mention, is characterised by an intensely rank smell of garlic (warning odour ?). As I have seen no sign of the sponge host being preyed upon by any animal, we may conclude that its protective devices of spicules, odour and taste, are fairly successful. A worm whose tube is sunk completely in its substance will naturally be very safely housed, and besides, the friendly water currents set in motion by the sponge cilia will bring much food matter to its very mouth.

Bowerbank, in his description ("Br. Sp. Vol. II., p. 134), writes of a specimen as "permeated by some small tubular zoophyte which it has coated with its own tissues, and from these adopted columns defensive spicula are projected,"— evidently referring to the same thing as I describe above— but mistaking the tube formed as zoophyte instead of annelid. Evidently from this mention the habit must be somewhat widely spread.

There cannot fail to be many further instances of this interesting inter-relationship between animals yet to be recorded. The study well repays any time devoted to it; little preliminary zoological knowledge is required—an ordinary text book of zoology being ample provision to make— and not the least of its advantages is that it is necessary to carry out the research in "the free air and light of heaven," a briny breeze fanning one's cheeks as one turns over the trailing brown weeds festooning and draping caves, chinks and gullies in that richly peopled strip of shore that uncovers but a few times a year on the occasions of the lowest spring tides.

NOTE.—In dredging in deep water off the Isle of Man, I have often found a Nereid *(Nereis fucata)* as a common commensal with the Hermit Crab in old Whelk Shells. Here I have never met with it, so if any member should encounter any when dredging, as also the Polynoë commensal *(A. astericola)*, in the ambulacral groove of *Astropecten*, I shall be much indebted if they be preserved in spirit and sent to me.

Nov. 11th, 1892. JAMES HORNELL.

SUNSHINE IN GUERNSEY.

BY MR. A. COLLENETTE, F.C.S.

THE year has proved much more sunny than 1894. The following table shows the actual sunshine for each month, the percentage of possible sunshine and the difference between this and last year.

TABLE I.

Month.	Sunshine, 1895. Hours.	%	Sunshine, 1894. Hours.	%	Difference. Hours.
January	63·28	23	64·85	25	+ 0·13
February	111·26	37	87·02	30	+ 24·24
March	168·08	45	196·77	53	− 28·69
April.....	191·21	46	191·05	47	+ 0·16
May	309·74	65	230·01	48	+ 79·73
June	294·50	60	215·31	44	+ 79·19
July	254·61	58	187·20	38	+ 67·41
August.....	244·84	55	186·43	42	+ 58·41
September ..	260·31	69	155·16	41	+105·15
October	91·35	27	91·86	27	− 0·51
November ..	62·10	23	74·53	27	− 12·43
December....	17·95	7	44·20	17	− 26·25
The Year	2069·23	46	1724·39	39	+335·84

TABLE II.

Sunniest Day....	3rd July	14·75	92%
,, Week..	2nd to 8th July	95·44	86%
,, Month..	May	309·74	65%

The great peculiarity of the year has been the high record of September followed by the exceedingly small one of October, and still smaller for November and December.

TABLE III.

SUNLESS DAYS.

	1895	1894		1895	1894		1895	1894		1895	1894
Jan.	8	10	April ..	1	0	July.	0	2	Oct. ...	5	4
Feb.	6	6	May	0	2	Aug.....	0	3	Nov....	9	10
March ..	2	0	June....	0	0	Sept....	0	1	Dec....19		11

The year 1895, 50. The year 1894, 49.

WILD FLOWERS IN DECEMBER.

BY MR. E. D. MARQUAND, VICE-PRESIDENT.

GENERALLY about Christmas time someone finds a primrose or two in some warm sheltered nook, and forthwith the discovery is announced in the local newspapers as quite extraordinary. Now there is an old proverb in the Guernsey *patois* to the effect that there is never a Christmas without its primrose and its little lamb. And, as a matter of fact, this "pale darling of spring" is to be found in flower here in every month of the year, though, of course, April is *the* primrose month *par excellence*.

Many summer flowers are, however, far more common at Christmas time than the primrose; and with the exercise of a little care in selecting and pruning, and a little taste in arrangement, a very pretty and effective bouquet may be collected in the hedgerows during any of the winter months. It is really surprising what a number of wild plants may be found in flower at the end of the year if properly looked for. Here is a cutting from a Sussex newspaper giving the names of 69 plants found in blossom on the 24th and 25th of December in the neighbourhood of St. Leonard's; and I have also before me a list of 111 wild flowers gathered in Cornwall during the month of December.

Some time ago it occurred to me that it would be interesting to ascertain what sort of a list could be made out for Guernsey, and how it would compare with the south of England. Accordingly I secured the co-operation of two sharp-eyed lady friends, and as soon as the month of December opened we set to work to catalogue all the wild flowers we could find. We made it a condition that only actual blossoms should be counted; mere buds, except when showing the colour of the petals, were disregarded, as well as seeds or young fruit.

During the month we made four special excursions in different directions, when every species that came in our way

was noted ; at other times only the novelties were added to the list. Our first walk was taken on December 1st to Saints' Bay and Moulin Huet, and during the day we collected 107 species, which was considered a very good beginning. The second walk, on the 4th, embraced the north-eastern district of the island, viz., Mont Crevelt, Vale Castle, Bordeaux and the lanes in the neighbourhood ; on this occasion we probably beat the record for a single day's flower hunting in December, for we collected 115 species, of which no less than 46 were additions to the previous list, making in all 153 flowers found in two days.

Unfavourable weather and other circumstances prevented our having another long walk until December 26th, when we went over Delancey Hill to l'Islet and the coast of Grand Havre. This excursion produced 101 species, the finding of which necessitated a good deal of close searching, because flowers were decidedly more scarce than they were three weeks earlier, owing to the recent keen cold winds. The fourth and last walk, taken under considerable disadvantages as regards weather, was in the vicinity of Fermain and Jerbourg on the last day of the year ; the number of flowers collected was 86, of which three were additions to our previous lists, as if to show that even now we had not exhausted all the floral treasures of mid-winter.

The total number of wild flowers found by us during the entire month amounts to 187 species,—a number which so greatly exceeds what I had estimated that I feel sure the Society will be glad to preserve the record in its Transactions. About 50 of these may be described as fairly common flowers during the month of December, whilst about the same number must rank as excessively rare, since they only occurred to us once, and in many instances were represented by a single blossom. They must be classed with "the last rose of summer," and would doubtless perish with the first frost.

Some of the plants deserve a passing note. That bright herald of spring, the Lesser Celandine or Pilewort, was commonly in blossom during the entire month ; I saw its golden stars as early as November 24th, in the Saints' Bay Valley. The Common Bittercress, another purely spring flower, was likewise in bloom very generally, The Corn Poppy, the Honeysuckle, and the Sweet Vernal Grass were quite unexpected finds, and so was the Centaury, found twice on Fermain Point on the last day of the year, its pretty pink star-like flowers as bright and fresh as in July. A sharp look-out was kept for a Dog Violet, but without success, though the

little white Field Pansy was found several times, and the scented Violet was abundantly in flower in gardens. Another flower searched for in vain was the Common Nettle, and yet, curiously enough, the Small Nettle was blossoming profusely everywhere at the Vale. The most interesting find of all, from a botanical point of view, was that very rare Scilly plant, the Yellow Bird's Foot *(Ornithopus ebracteatus)*. It was growing luxuriantly on a hedge in the lane behind the Vale School, and bore an abundance of flowers and fruit. The Primrose was found in a good many places during the month, and was also seen in November.

Out of the 187 plants enumerated there is only one truly winter flower, the Scented Butterbur, which comes into flower in November and lasts until February. Its delicious fragrance has earned for it the prettier name of Wild Heliotrope, and it is much in request for winter bouquets.

An analysis of the colours of our December flowers shows them to be divided as follows :—

White	31	Pink	23
Yellow	38	Purple	20
Blue	15	Greenish	57
Red	3		

These figures refer, of course, to species ; but as regards individual flowers it will be found that, taking the country as a whole, yellow ones are the most numerous during the winter, and after that white.

Ranunculus flammula.	Lesser Spearwort.
repens.	Creeping Crowfoot.
bulbosus.	Meadow Buttercup.
Ficaria.	Pilewort.
Papaver rhœas.	Corn Poppy.
Fumaria confusa.	Fumitory.
Cardamine hirsuta.	Common Bittercress.
flexuosa.	Wavy Bittercress.
Alyssum maritimum.	Seaside Alyssum.
Cochlearea danica.	Scurvy Grass.
Sisymbrium thalianum.	Thale Cress.
officinale.	Hedge Mustard.
Sinapis arvensis.	Charlock.
incana.	Hoary Mustard.
Diplotaxis tenuifolia.	Wall Rocket.
Capsella bursa-pastoris.	Shepherd's Purse.
Senebiera didyma.	Wart Cress.
Raphanus maritimus.	Sea Radish.
Reseda luteola.	Dyers' Weed.
Viola arvensis.	White Field Pansy.

Polygala vulgaris.	Milkwort.
Silene maritima.	Sea Campion.
anglica.	English Catchfly.
quinquevulnera.	Red Spotted Catchfly.
Lychnis diurna.	Red Campion.
flos-cuculi.	Ragged Robin.
Cerastium glomeratum.	Broad-leaved Mouse-ear Chickweed.
triviale.	Narrow-leaved Chickweed.
Stellaria media.	Chickweed.
uliginosa.	Bog Stitchwort.
Sagina procumbens.	Pearlwort.
Spergula arvensis.	Corn Spurrey.
Lepigonum rupestre.	Sandwort Spurrey.
Polycarpon tetraphyllum.	Allseed.
Tamarix gallica.	Tamarisk.
Hypericum humifusum.	Trailing St. John's Wort.
Lavatera arborea.	Tree Mallow.
sylvestris.	Lesser Tree Mallow.
Malva rotundifolia.	Dwarf Mallow.
sylvestris.	Common Mallow.
Linum angustifolium.	Narrow-leaved Flax.
Geranium molle.	Dove's foot Cranesbill.
dissectum.	Jagged-leaved Cranesbill.
Robertianum.	Herb Robert.
Erodium cicutarium.	Hemlock Storksbill.
moschatum.	Musky Storksbill.
Oxalis corniculata.	Yellow Wood Sorrel.
Ilex aquifolium.	Holly.
Ulex Gallii.	Furze.
Medicago lupulina.	Black Medick.
Melilotus arvensis.	Field Melilot.
officinalis.	Common Melilot.
Trifolium pratense.	Purple Clover.
arvense.	Hare's foot Trefoil.
repens.	Dutch Clover.
incarnatum.	Crimson Clover.
minus.	Yellow Trefoil.
Lotus major.	Greater Bird's foot Trefoil.
hispidus.	Hairy Bird's foot Trefoil.
Ornithopus perpusillus.	Common Bird's foot.
ebracteatus.	Yellow Bird's foot.
Vicia angustifolia.	Common Vetch.
Rubus fruticosus.	Bramble.
Geum urbanum.	Wood Avens.
Potentilla fragariastrum.	Barren Strawberry.
tormentilla.	Tormentil.
Alchemilla arvensis.	Parsley Piert.
Cotyledon umbilicus.	Wall Penny Wort.
Sedum anglicum.	Stonecrop.

Conium maculatum.	Hemlock.
Smyrnium olusatrum.	Alexanders.
Apium graveolens.	Wild Celery.
Petroselinum sativum.	Wild Parsley.
Fœniculum officinale.	Fennel.
Œnanthe crocata.	Water Dropwort.
Æthusa cynapium.	Fool's Parsley.
Heracleum sphondylium.	Hogweed.
Daucus gummifer.	Sea Carrot.
Hedera helix.	Ivy.
Lonicera periclymenum.	Honeysuckle.
Galium mollugo.	Hedge Bedstraw.
Sherardia arvensis.	Field Madder.
Centranthus ruber.	Spur Valerian.
Valerianella carinata.	Keeled Corn Salad.
olitoria.	Common Corn Salad.
Bellis perennis.	Daisy.
Erigeron mucronatum.	Wall Fleabane.
Achillæa millefolia.	Yarrow.
Anthemis cotula.	False Chamomile.
nobilis.	Common Chamomile.
Chrysanthemum segetum.	Corn Marigold.
leucanthemum.	Ox-eye.
Matricaria inodora.	Corn Feverfew.
Petasites fragrans.	Fragrant Butterbur.
Senecio vulgaris.	Groundsel.
sylvaticus.	Mountain Groundsel.
Jacobæa.	Ragwort.
Carduus lanceolatus.	Spear Thistle.
palustris.	Marsh Thistle.
arvensis.	Creeping Thistle.
Centaurea nigra.	Black Knapweed.
Helminthia echioides.	Ox-tongue.
Crepis virens.	Hawksbeard.
Hieracium pilosella.	Mouse-ear Hawkweed.
umbellatum.	Narrow-leaved Hawkweed.
Hypochœris radicata.	Cat's Ear.
Leontodon hirtus.	Hawkbit.
Taraxacum officinale.	Dandelion.
Sonchus oleraceus.	Common Sow Thistle.
asper.	Rough Sow Thistle.
Jasione montana.	Sheep's Bit.
Calluna vulgaris.	Heather.
Erica cinerea.	Heath.
Armeria maritima.	Thrift.
Primula vulgaris.	Primrose.
Anagallis arvensis.	Scarlet Pimpernel.
Vinca major.	Periwinkle.
Erythræa centaurium.	Centaury.

Borago officinalis.	Borage.
Lycopsis arvensis.	Bugloss.
Solanum nigrum.	Nightshade.
Linaria cymbalaria.	Ivy-leaved Toadflax.
elatine.	Sharp-leaved Toadflax.
vulgaris.	Yellow Toadflax.
Antirrhinum orontium.	Small Snapdragon.
Veronica agrestis.	Field Speedwell.
Buxbaumii.	Buxbaum's Speedwell.
arvensis.	Wall Speedwell.
serpyllifolia.	Thyme-leaved Speedwell.
chamædrys.	Germander Speedwell.
Pedicularis sylvatica.	Louse Wort.
Orobanche hederæ.	Broom Rape.
Thymus serpyllum.	Thyme.
Salvia verbenaca.	Wild Sage.
Prunella vulgaris.	Self-heal.
Stachys sylvatica.	Hedge Woundwort.
arvensis.	Corn Woundwort.
Lamium purpureum.	Dead Nettle.
Ballota nigra.	Black Horehound.
Teucrium scorodonia.	Wood Sage.
Plantago major.	Great Plantain.
lanceolata.	Ribwort Plantain.
coronopus.	Buck's horn Plantain.
Chenopodium murale.	Nettle-leaved Goosefoot.
Beta maritima.	Sea Beet.
Atriplex deltoidea.	Orache.
Polygonum aviculare.	Knotgrass.
persicaria.	Spotted Persicaria.
Rumex conglomeratus.	Sharp Dock.
crispus.	Curled Dock.
obtusifolius.	Broad-leaved Dock.
acetosella.	Sheep's Sorrel.
Euphorbia helioscopia.	Sun Spurge.
portlandica.	Portland Spurge.
paralias.	Sea Spurge.
peplus.	Petty Spurge.
exigua.	Dwarf Spurge.
Mercurialis annua.	Mercury.
Urtica urens.	Small Nettle.
Parietaria officinalis.	Wall Pellitory.
Ruscus aculeatus.	Butcher's Broom.
Juncus bufonius.	Toad Rush.
lamprocarpus.	Jointed Rush.
Scirpus savii.	Mud Rush.
Carex vulpina.	Great Sedge.
Phalaris canariensis.	Canary Grass.
Anthoxanthum odoratum.	Sweet Vernal Grass.

Alopecurus pratensis.	Fox tail Grass.
Phleum pratense.	Cat's tail Grass.
Agrostis alba.	Marsh Bent Grass.
Gastridium lendigerum.	Nit Grass.
Holcus mollis.	Creeping Soft Grass.
lanatus.	Meadow Soft Grass.
Arrhenatherum avenaceum.	False Oat Grass.
Triodia decumbens.	Heath Grass.
Cynosurus cristatus.	Dog's tail Grass.
Dactylis glomerata.	Cock's foot Grass.
Poa annua.	Annual Meadow Grass.
trivialis.	Rough Meadow Grass.
Glyceria fluitans.	Floating Meadow Grass.
Festuca sciuroides.	Wall Fescue Grass.
Bromus sterilis.	Barren Brome Grass.
mollis.	Soft Brome Grass.
Brachypodium sylvaticum.	False Brome Grass.
Lolium perenne.	Rye Grass.
Triticum junceum.	Sea Wheat Grass.
Hordeum murinum.	Wall Barley.

THE RAINFALL FOR 1895.

BY MR. A. COLLENETTE, F.C.S.

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TABLE I.

Dry Months.	Wet Months.	Amount. Inches.	Over or under the average. Inches.	Inches.	Wet Days.
1—	January	4·31	+ 0·37		24
2—February..	.....	0·08		– 2·54	2
3—	March	2·99	+ 0·50		21
4—	April	3·17	+ 0·88		12
5—May.....	.....	0·49		– 1·72	1
6—June	.....	1·06		– 1·02	8
7—	July	3·02	+ 0·79		16
8—	August.....	2·84	+ 0·43		19
9—September	.....	1·39		– 1·68	9
10—	October.....	6·02	+ 0·99		21
11—	November....	6·08	+ 1·54		27
12—	December....	6·29	+ 2·29		29

TABLE II.

DROUGHTS.—February 11th to March 1st inclusive.
April 27th to May 30th inclusive.

PARTIAL DROUGHTS.—February 1st to March 1st inclusive.

TABLE III.

Heavy Falls exceeding 0·50 inches in 24 hours.

7th January.... 0·94in.	10th September. 0·58in.	8th November.. 0·86in.
26th March .... 0·53in.	30th September. 0·54in.	10th November.. 0·59in.
24th April..... 0·52in.	1st October..... 0·72in.	11th November.. 0·70in.
25th April..... 1·04in.	2nd October.... 0·53in.	29th November . 0·63in.
18th July ..... 0·81in.	8th October.... 0·59in.	5th December .. 0·68in.
27th July ..... 0·66in.	22nd October... 0·51in.	12th December.. 0·59in.
1st August..... 0·76in.	7th November.. 0·58in.	16th December.. 0·72in.

23rd December.....0·53in.

A VISIT TO LIHOU.

BY MR. G. T. DERRICK.

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THE third visit of this Society to the islet of Lihou was made on June 25th, 1895. The weather was everything that could be desired; the long drought and extreme heat had caused plants to ripen early, so no signs were to be discovered of some of the small spring plants which, occurring plentifully on the mainland, may also exist on Lihou, as for example, *Teesdalia nudicaulis*, *Draba verna*, *Sisymbrium thalianum*, &c.

Lihou may be spoken of as a rectangle measuring about 500 yards from east to west, and 240 from north to south, with two spurs at the east extremity projecting one north, the other south, making a width here of about 600 yards; so the area would be about 30 acres. The shores are considered a good collecting ground for seaweed, and Lihou is still the principal Guernsey station for collecting and burning vraich for the manufacture of iodine, but the finishing processes are performed at the old steam mills at St. Martin's. A large party (62) took part in the excursion, and these, crossing by the causeway with little difficulty at 12.30, mostly made their way to the ruins of the Priory to refresh themselves for their afternoon's work. Assembled at this historic spot, the archæologists naturally had the first innings. Then the company separated, and each division devoted itself to making as complete a survey of the islet as the limited time would allow. The botanists had hoped to obtain as many as 50 species of plants, and were highly delighted that they nearly doubled that number; no less than 86 flowering plants and 4 ferns were catalogued by our worthy ex-President and his colleagues.

For botanical purposes the island may be divided into three regions:—1st. The coast and the outcrop of rock at the

west end, which rises 101 feet above sea level. This district yielded quite as many plants as were expected, though there were a few notable absentees, *e.g.*, *Plantago maritima*, *Euphorbia paralias*, &c. 2nd. The enclosures adjoining the houses and the ruined Priory, and the bases of the walls separating the fields. 3rd. The interior generally, which is now covered mostly with grass, *Holcus lanatus* being particularly prevalent; it is used as a grazing ground for sheep, though the numerous wild rabbits seem to have a good share of it. Each of these districts will be seen to have yielded its characteristic flora; the botanical section is quite satisfied with the results of its labours, which will be seen in the annexed list. They fancy, however, that some friend who did not assist in the search may accuse them of not having used their eyes well, for surely if they had, they must have found *Bellis perennis* (Common Daisy), *Chrysanthemum leucanthemum* (Dog Daisy), *Lychnis diurna* (Red Robin), *Lonicera periclymenum* (Honeysuckle), *Hedera helix* (Ivy), *Capsella bursa pastoris* (Shepherd's Purse), which occur so universally on the mainland only 600 yards off, and to which it is joined four hours daily. We should be very pleased if such a friend will accompany us on a future excursion, and point these out to us; we will gladly add them to the list and bring the number up to the century. Probably a visit at a different season would add a few names to the list, *Primula vulgaris*, *Scilla autumnalis* and a few spring plants. Examining the list we are pleased to see that *Crambe maritima* still holds its station on the shore, to find *Glaux maritima* near the pond, and the teazel on the Priory ground. It was quite a surprise to find *Ophioglossum vulgatum* on the north slope. *Ulex europeus* and *Lycopsis arvensis* are from Charles Island adjoining; they were not seen on Lihou proper.

Lihou seems more to resemble Jethou than any other of the outlying islets. Its closeness to one of the larger islands, its one permanently inhabited house, and its large stock of wild rabbits support the resemblance. But while Jethou rises boldly with high cliffs and frequent exposure of the bare rock, and reaches an elevation of 238 feet, Lihou has generally a low shore, sometimes ancient beach, sometimes clay, the highest rocks, those at the west extremity only reach 101 feet. In Jethou there are a good many trees, in Lihou not one; a large part of Jethou is covered with furze, on Lihou proper there is not a plant; in the former, large areas are covered with bracken, in Lihou there is very little and the fields are covered with coarse grass; indeed, in the general appearance of the vegetation there could hardly be a greater contrast.

The following tabular comparison of Lihou with some of the other islets examined by the Society may be of interest. The dimensions of the islets are taken from the official charts.

Islet.	Length. yds.	Breadth. yds.	Area. acres.	No. of Flowering Plants.	No. of Ferns.
Jethou	600	500	70	184	7
Crevichon.....	200	80	3¼	32	6
Lihou	500	250	30	86	4
Houmet Homptolle..	80	60	1	15	

FLOWERING PLANTS OF LIHOU.

25TH JUNE, 1895.

Ranunculus repens.
ficaria.
Cochlearea danica.
Thlaspi arvense.
Crambe maritima.
Viola Riviniana.
Polygala oxyptera.
Silene maritima.
Cerastium tetrandrum.
triviale.
Stellaria media.
Arenaria peploides.
Sagina maritima.
Lepigonum rupestre.
Polycarpon tetraphyllum.
Malva sylvestris.
Radiola millegrana.
Geranium molle.
Erodium cicutarium.
moschatum.
maritimum.
Ulex europœus.
Trifolium repens.
fragiferum.
Lotus corniculatus.
hispidus.
Vicia augustifolia.
Rubus sp.
Potentilla Tormentilla.
Cotyledon umbilicus.
Sedum anglicum.
acre.
Crithmum maritimum.
Daucus gummifer.
Crepis virens.
Hypochœris radicata.
Leontodon hirtus.
hispidus.
Sonchus oleraceus.
Armeria maritima.
Glaux maritima.
Anagallis arvensis.
Erythrœa centaurii.
Cynoglossum officinale.
Lycopsis arvensis.
Myosotis collina.
Convolvulus arvensis.
Solanum dulcamara.
Plantago major.
lanceolata.
coronopus.
Chenopodium murale.
Beta maritima.
Atriplex deltoidea.
Rumex pulcher.
crispus.
acetosa.
acetosella.
Urtica urens.
dioica.
Trichonema columnœ.
Juncus Gerardi.
Luzula campestris.
Carex muricata.
arenaria.
Agrostis alba.
Aira caryophyllea.
Holcus lanatus.

Galium aparine.
verum.
Dipsacus sylvestris.
Matricaria chamomilla.
Senecio vulgaris.
Jacobœa.
Arctium minus.
Carduus tenuiflorus.
lanceolatus.

Dactylis glomerata.
Poa annua.
Sclerochloa loliacea.
Festuca sciuroides.
rubra.
Bromus mollis.
sterilis.
Lolium perenne.
Hordeum murinum.

Pteris aquilina.
Asplenium lanceolatum.

Asplenium marinum.
Ophioglossum vulgatum.

NOTE

ON THE TEMPERATURE OF SEPTEMBER, 1895.

BY MR. A. COLLENETTE, F.C.S.

SEPTEMBER this year has proved to be the warmest September recorded since 1843, when Dr. Hoskins' records commence. The month has been remarkable, not only for its average temperature, but for the actual maximum recorded.

The average temperature for September for fifty-two years is 58·1°, which this year has been exceeded 5·5°. A mean temperature exceeding 60° for September justifies the term "hot." I have, therefore, for comparison, tabulated below all Septembers since 1843, with mean temperatures of 60° and over. Including the past month there have been nine such.

	SEPTEMBERS OF								
	1843	1844	1846	1857	1858	1865	1868	1875	1895
Maximum Reading	76·0°	74·0°	76·0°	74·5°	75·0°	76·0°	81·5°	76·5°	83·3°
Mean Temperature	61·5°	60·2°	62·2°	60·5°	60·1°	62·8°	60·4°	61·0°	63·6°
No. of Readings of 70° and over	16	4	11	6	4	9	6	5	19
No. of Dry Days	24	18	18	14	17	28	21	15	22
Rainfall	0·62	1·35	2·44	4·55	2·59	0·25	2·04	2·94	1·39

The extreme heat of this September can also be shown by a comparison with the summer months of this year.

	1895				
	May.	June.	July.	Aug.	Sept.
Highest Reading.....	74·7°	78·2°	72·9°	74·8°	83·3°
Mean of all Highest	59·9°	64·1°	65·4°	66·5°	70·8°
Lowest Reading	41·4°	48·2°	44·9°	50·1°	49·9°
Mean of all Lowest	45·9°	51·2°	53·5°	55·1°	56·4°
Mean of Month	54·3°	57·8°	59·1°	60·8°	63·6°
No. of Readings over 70° ..	2	6	5	10	19
Number of Dry Days.....	30	23	14	12	22
Rainfall.....	0·49	1·06	3·02	2·84	1·39
Sunshine—Hours	310	294	254	245	260
,, % of possible ..	66	62	52	55	67

I further compare September, 1895, with an average of 52 Septembers.

	Mean Pressure.	Temperature Range. Extreme.	Mean.	Mean of Month.	Mean Max. in Sun.	Dry Days.
1895	30·150	33 4°	14·4°	63·6°	115·7°	22
Average	29·984	22·8°	9·2°	58·1°	110·0°	16
Differences ..	+ 0·166	+10·6°	+ 5·2°	+5·5°	+5·7°	+6

THE DIPTERA OF GUERNSEY.

BY MR. W. A. LUFF.

———o———

THE order of insects named *Diptera*, or two-winged flies, contains a very large number of species. The number recorded for the British Islands alone is about 3,000, and the total number in the whole world will probably exceed 30,000.

There have been few orders of insects so neglected as the *Diptera*, for although some of the species are very elegant and beautiful in the perfect state, still the great majority are small in size and sombre in colour, and do not attract beginners in the science, like such insects as butterflies and moths. The life histories of these insects are, however, so interesting and varied that a study of even a few species will well repay the observer.

The larvæ of *Diptera* are footless grubs, or maggots, their food usually consisting of decaying animal and vegetable matter. Some, however, mine the leaves of various plants, others, as the dreaded Hessian fly, on which whole volumes have been written, live on and destroy our cultivated plants. Several families pass their preliminary stages in the waters of stagnant ponds and ditches, whilst others are parasites living within the bodies of other insects, especially of the *Lepidoptera*.

In structure the *Diptera*, in the imago or perfect state, are distinguished from other orders of insects by having two wings only and a pair of small knobbed appendages just behind them, which are called halteres or poisers. The wings are membranous, and when at rest remain expanded, as in the *Hymenoptera;* that is, they are never folded upon themselves.

The jaws of *Diptera* are never formed for biting or nipping. The mouth has a fleshy proboscis, which is really a modified labium or lower lip. This proboscis encloses several lancet-like organs, capable of penetrating flesh or the softer parts of vegetables. The mouth is therefore called suctorial.

It is scarcely necessary to say that many of the *Diptera*, though small in size, are great annoyances to man and animals.

In warmer countries the mosquitoes are so troublesome as to require special means of protection from their weapons ; and we have all read of the dreaded tsetse fly of certain regions in Africa, which is so deadly to horses. The great majority of species, however, living as they do on decaying matter, are of the utmost use as scavengers, especially in hot countries. It has been stated on good authority that three Blue-bottle flies will eat up the carcase of a dead horse as quickly as a lion would ; meaning that the eggs they would deposit therein would be so numerous, and so soon be hatched and become larvæ, that the carcase would be devoured in an incredibly short time. So prolific are these little creatures that no less than 20,000 eggs have been counted in the ovary of a single female.

Until recently the fleas have been classed in a separate order under the name of *Aphaniptera*, but they are now generally included among the *Diptera*, on account of the similarity of their transformations and their possessing scales representing rudimentary wings and halteres, besides other resemblances.

In the arrangement of my list I have followed the most recent classification, that of Mr. G. H. Verrall's "List of British Diptera," published in 1888.

I will now give a short description of the principal families into which the order is divided.

The first family consists of the *Pulicidæ*, or Fleas. Of these I know of four species in Guernsey, and probably there are more. There is no need to describe them, as the type *Pulex irritans* is well known, and they all bear a family likeness.

The *Cecidomyidæ*, or Midges, many of which occur with us, do not figure in the present list. All of them are small insects, many being exceedingly minute, and require special study to name them correctly, the species being so closely allied. The larvæ live in various plants, one, the dreaded Hessian fly, *Cecidomyia destructor*, being very destructive to wheat ; others form galls on plants.

The *Mycetophilidæ*, or Fungus gnats, the larvæ of which feed on rotten wood, rotten fruit, fungi, &c., are rather small and of delicate structure.

The *Bibionidæ*, or Garden flies, are small dark insects frequenting meadows and often appearing in immense numbers.

Bibio marci is a well-known species. It is of a deep black colour, and appears on our cliffs in immense numbers on about St. Mark's Day, hence the name.

The *Chironomidæ* are a large family consisting of small and delicate species. Most of the larvæ are aquatic creatures. One well-known example is that of *Chironomus plumosus Lin.*, commonly called the blood-worm from its red colour. It is often to be seen in water butts and tanks of rain water, swimming about with a curious wriggling motion.

The *Psychodidæ*, or fungus midges, are of small size and somewhat resemble moths, the wings being fringed.

The *Culicidæ*, or Gnats, are often called "mosquitoes" in this country; they are small and dull coloured and are often very troublesome, causing much pain and irritation of the skin by their sucking.

The *Tipulidæ* are familiarly known as Crane flies, or Daddy Long-legs. They fly in swarms in damp grassy fields, especially in the evenings. The commonest species is *Tipula oleracea;* it is of a greyish colour with transparent wings. The larvæ do a great deal of damage to the roots of corn and grass, and from their habit of living below the surface of the ground, no effectual means have been discovered to get rid of them.

The *Tabanidæ*, or Gadflies, are very annoying to cattle, especially in hot weather, as the females draw blood from them by means of their large and powerful proboscis.

The *Asilidæ*, or Hawk flies, are large and powerful insects; they are carnivorous, feeding on other insects, and will not hesitate to attack insects much larger than themselves.

One species, *Asilus crabroniformis*, which is common with us, is very large, and is sometimes called the Hornet fly, from its fancied resemblance to that insect.

The *Bombylidæ* are called Bee-flies, they being usually densely clothed with hairs. They are exceedingly active insects with long tongues, with which they extract the honey from flowers.

The *Empidæ* are very ferocious, somewhat like the *Asilidæ*, but usually much smaller. They hunt down and live on other insects.

The family *Dolichopodidæ* is a very extensive one; the species are small in size, and usually brilliantly coloured.

The *Syrphidæ*, or Hovering flies, are well known from their peculiar mode of flight. They will hover in the air almost motionless and dart off with an exceedingly rapid motion, usually returning again and again to the same spot. They are brilliantly-coloured flies, most of them striped or banded with black and yellow. The larvæ live in stagnant water, decomposing matter, mud, &c. The perfect insects

suck the juices of flowers. In the autumn many species swarm on the blossoms of the ivy.

The *Conopidæ*, or Wasp flies, much resemble wasps from their contracted first abdominal segment. They frequent flowers, the larvæ being parasitic on bees.

The *Œstridæ*, or Bot flies, are parasitic on horses, sheep and oxen. They are termed "bots" in horses, "maggot" in sheep, and "warbles" in cows and oxen. The eggs of the Bot fly are laid on the hair, in those parts likely to be licked by the horse. The young larva readily adheres to the moist surface of the tongue, and is from thence conveyed into the stomach, where they feed.

Mr. Bracey Clarke, one of the best observers of these insects, says they are not injurious; others, however, are of a contrary opinion.

The "maggot" in sheep has a still more wonderful history. Its eggs are laid in the nostrils of sheep; these, on becoming larvæ, penetrate into the frontal and maxillary sinuses and even the horns, and feed on their secretions. When full grown the larvæ fall through the nostrils of the sheep to the ground, and there change into the pupa state. In about two months the perfect fly makes its appearance.

The "warble fly" of the cow and oxen is far more formidable than either of those just described. Its eggs are laid on the sides and backs of these animals, and the larvæ resulting from them pierce through the hide, producing tumours as large as pigeons' eggs. The food of the larva appears to be the pus or matters surrounding it in the tumour in which it exists. Having attained its full size, it presses itself against the upper part of the tumour, and, by some unknown process, makes a hole in the hide about the size of a pea. Through this the larva wriggles itself and falls to the ground, where it soon becomes a pupa. After lying on the ground some weeks the perfect fly emerges. It is a large and handsomely coloured species, but very difficult to obtain on account of the rapidity of its flight and the difficulty of breeding it, the larva dying on being removed from the animal on which it has fed.

The *Muscidæ* are the most numerous family of the *Diptera*, and includes many of the most familiar insects, such as the common house fly, *Musca domestica*, the flesh fly, *Sarcophaga carnaria*, and the blow or blue-bottle fly, *Musca vomitaria*.

Amongst the few remaining families may be mentioned the *Piophilidæ*, which contains *Piophila casei*, which in its larval state is familiarly known as the cheese hopper or jumper, from its peculiar mode of progression.

The *Hippoboscidæ* are parasitic on animals and birds, and include the sheep tick, *Melophagus ovinus*, which is found amongst the wool of sheep, and *Stenopteryx hirundinis*, which is attached to swallows and martins, remaining in their nests throughout the winter.

The *Nycteribidæ* are curious wingless creatures, but possessing halteres, and are parasitic on bats.

In the last family, that of the *Braulidæ*, there is only a single species, *Braula cæca*, which is exceedingly minute, and is parasitic on the honey bee.

All the species on the list have been captured by myself in Guernsey, most of them during the present year (1895). They form only a small proportion of those which exist on the island, several large families comprising numerous species being entirely unrepresented. It, however, includes many of the largest and more conspicuous species, and although it is intended only as a provisional list, subject to revision, it will fill up a gap in our recorded island fauna, no list of the Diptera of Guernsey having hitherto been published.

One species, *Hyetodesia carbo*, Schiner, is not recorded as British, and several others are rare or scarce. Of these *Epitriptus cingulatus*, F., *Syrphus grossulariæ*, Mg., *Eumerus lunulatus*, Mg., and *Lucina fasciata*, Mg., are especially worthy of note.

In Ansted's "Channel Islands" a list of 35 species of *Diptera* is given for Jersey. These were collected by Mr. Piquet, and named by the late Mr. Francis Walker, F.L.S. There are a great many printer's errors in this list. These have been corrected, and the names according to Verrall's list placed opposite each species. I have inserted the list at the end of the Guernsey one for purposes of comparison.

I must here express my deep obligation to the Rev. E. N. Bloomfield, M.A., F.E.S., of Hastings, who has kindly examined and named most of my captures; also to Dr. R. H. Meade, of Bradford, who has named several species belonging to difficult families, of which he has made a special study.

DIPTERA.

PULICIDÆ.

Pulex irritans, *L.* Common.

P. fasciatus, *Bosc.* Several specimens found on a long-tailed field mouse, captured near the Vale coast.

P. melis, *Wlk.* Common.

P. canis, *Duges.* Abundant.

MYCETOPHILIDÆ.

Sciara Thomæ, *L.* Several taken in Guernsey; one in Alderney, August 6th, 1892.

Platyura marginata, *Mg.* One in a house in Mansell Street, June 12th, 1892. One near Perelle Bay, June 12th, 1895. I have also taken a species of *Platyura* very similar to *marginata*, but much larger. It has not yet been determined.

BIBIONIDÆ.

Dilophus febrilis, *L.* Common.
Bibio Marci, *L.* (St. Mark's Fly). Usually very abundant during May.
B. hortulanus, *L.* Not common.

CHIRONOMIDÆ.

Chironomus plumosus, *L.* The larvæ abundant in stagnant water.

CULICIDÆ.

Culex annulatus, *Schrk.* Common.

PTYCHOPTERIDÆ.

Ptychoptera paludosa, *Mg.* One taken on June 18th at Petit Bôt.
P. albimana, *F.* Not uncommon.

LIMNOBIDÆ.

Limnobia nubeculosa, *Mg.* Common.
Erioptera fuscipennis, *Mg.* Abundant on June 18th, 1895, at Petit Bôt.
E. trivialis, *Mg.* Common.
Limnophila ferruginea, *Mg.*

TIPULIDÆ.

Pachyrrhina histrio, *F.* Common on l'Ancresse Common, May, 1895.
P. maculosa, *Mg.* One taken near Vazon.
Tipula rufina, *Mg.* Not uncommon.
T. lateralis, *Mg.* Common.
T. gigantea, *Schrk.* Not uncommon, Petit Bôt and Saints' Bay.
T. oleracea, *L.* Very abundant.

RHYPHIDÆ.

Rhyphus fenestralis, *Scop.* One specimen, July, 1895.

STRATIOMYNÆ.

Nemotelus nigrinus, *Fln.* July.
Sargus cuprarius, *L.* Petit Bôt in July, not common.
Chloromyia formosa, *Scop.* Common in June and July.
Microchrysa polita, *L.*
Beris Morrisii, *Dale.* One taken in Guernsey and one in Sark.

TABANIDÆ.

Hæmatopota pluvialis, *L.*
Tabanus autumnalis, *L.* Three specimens taken during July and August.
Chrysops cæcutiens, *L.* One specimen taken at St. Sampson's.

LEPTIDÆ.

Chrysopilus auratus. Not uncommon at Petit Bôt, June 16th, 1895.

ASILIDÆ.

Leptogaster cylindrica, *Deg.* Vale, July 28th.
Dioctria Baumhaueri, *Mg.* One, July 1895.
Asilus crabroniformis, *L.* This fine species is not uncommon in Guernsey, Alderney and Sark.
Epitriptus cingulatus, *F.* Two.
Dysmachus trigonus, *Mg.*

BOMBYLIDÆ.

Anthrax paniscus, *Rossi.* One taken in Guernsey. I noticed them in numbers near Platte Saline Bay, Alderney, on August 6th, 1895.

THEREVIDÆ.

Thereva plebeia, *L.* Two specimens taken at St. Andrew's.
T. annulata, *F.* Several taken near Grande Rocque. Common on the sand hills near St. Ouen's Bay, Jersey.

EMPIDÆ.

Hybos femoratus, *Müll.* One near Jerbourg.
Empis tessellata, *F.* Not uncommon.
E. livida, *L.* Common.
Pachymeria femorata, *F.* Perelle Bay, June 12th, 1895.
Hemerodromia precatoria, *Fln.* Not uncommon on May 21st, 1895, Vale.
Ardoptera irrorata, *Fln.* One, St. Martin's.

DOLICHOPODIDÆ.

Argyra leucocephala, *Mg.*
Liancalus virens, *Scop.* In fields near Vazon Bay.

LONCHOPTERIDÆ.

Lonchoptera flavicauda, *Mg.* Common.

SYRPHIDÆ.

Chrysogaster metallina, *F.* Common in May and June.
C. splendens, *Mg.* One specimen, Saints' Bay, in June.
Chilosia vernalis, *Fln.* Two specimens taken near Petit Bôt in May.
Melanostoma scalare, *F.* Common.
M. mellinum, *L.* One.
Pyrophæna ocymi, *F.* Local. In damp fields near Petit Bôt Bay.
Platychirus manicatus, *Mg.* Common.
P. albimanus, *F.* Not common.
P. peltatus, *Mg.* Several in May and June.
P. clypeatus, *Mg.* Common.
Syrphus bifasciatus, *F.* One specimen taken in May, 1895, at Petit Bôt.
S. corollæ, *F.* Common.
S. latifasciatus, *Meq.* Saints' Bay, June.
S. grossulariæ, *Mg.* One specimen, July 29th, Saints' Bay.
S. auricollis, *Mg.* Var. *maculicornis.* Not common.

Catabomba pyrastri, *L.* Several near Moulin Huet Bay.
Sphærophoria scripta, *L.* Common in May and June.
Ascia podagrica, *Fab.* Common.
Volucella bombylans, *L.* Both varieties taken, but not common.
Eristalis sepulchralis, *L.* One taken near Petit Bôt, June 15th, 1895.
E. tenax, *L.* Abundant all through the year; swarming on ivy blossom in the autumn.
E. arbustorum, *L.* Abundant.
E. pertinax, *Scop.* Common.
Myiatropa florea, *L.* One specimen taken at ivy blossom in October.
Helophilus pendulus, *L.* Not common.
Syritta pipiens, *Linn.* Abundant.
Eumerus lunulatus, *Mg.* Several specimens taken near Petit Bôt.
Chrysotoxum festivum, *L.* Not common.
C. bicinctum, *L.* Several taken at Saints' and Petit Bôt Bays.

CONOPIDÆ.

Physocephala rufipes, *F.* Two.
Oncomyia atra, *F.* One.
Myopa buccata, *L.* Two specimens in a garden, June, 1895.

TACHINIDÆ.

Masicera pratensis. Several bred from pupæ found in the burrows of a bee in a sandbank near the coast.
Frontina nigricans. Petit Bôt, July.
Siphona geniculata, *Deg.* Common.
Clista mareus. One.

DEXIDÆ.

Morinia tergestina, *Schr.*
Melanophora roralis, *L.* Not common.
Nyctia halterata, *Pz.* One.
Thelaira leucozona, *Pz.* Var. *nigripes.* Petit Bôt, June 16th.
Prosena? siberita, *F.*

SARCOPHAGIDÆ.

Sarcophaga carnaria, *L.* Abundant.
S. albiceps, *Mg.* Common at Grande Mare, Vazon.
S. melanura, *Mg.* St. Andrew's in May.
S. nigriventris, *Mg.* May and June.

MUSCIDÆ.

Lucilia cæsar, *L.* (Green Bottle Fly). Abundant.
L. sericata, *Mg.* Common.
Calliphora erythrocephala, *Mg.* Common.
C. vomitoria, *L.* (Blue Bottle Fly). Abundant.
C. sepulchralis, *Mg.* Common.
Pollenia rudis, *F.* Common.
Musca domestica, *L.* (Common House Fly). Abundant.
M. corvina, *F.* Not uncommon, Guernsey and Sark.
Mesembrina meridiana, *L.*

Graphomyia maculata, *Scop.* Several taken near Petit Bôt in May.
Morellia? hortorum, *Fln.*
Myiospila meditabunda, *F.* Common.
Stomoxys calcitrans, *L.* (Stinging Fly). Common in the autumn.

ANTHOMYIDÆ.

Polietes lardaria, *F.* Not uncommon.
Hyetodesia lucorum, *Fln.*
H. scutellaris, *Fln.* Petit Bôt in May.
H. carbo, *Schiner.* One, Petit Bôt in May. Not on the British list.
Spilogaster communis, *Dsv.* Common in damp fields near Petit Bôt. May and June.
Hydrotæa dentipes, *F.* Common.
Hylemyia variata, *Fln.* Petit Bôt and Grande Marc.
H. strigosa, *F.* Common in damp fields. Grande Mare, Vazon.
Anthomyia pluvialis, *L.* Common.
Pegomyia bicolor, *W.* Grande Mare, Vazon.
Homalomyia canicularis, *L.* Common.
Caricea tigrina, *F.* Petit Bôt. May.
Hoplogaster mollicula, *Fln.* October.

CORDYLURIDÆ.

Norellia spinimana, *Fln.* Several in July at Petit Bôt.
Scatophaga stercoraria, *L.* Very abundant.

PHYCODROMIDÆ.

Cœlopa frigida, *Fln.* Not uncommon near the seashore.

HELOMYZIDÆ.

Helomyza variegata, *Lw.* Grande Mare, Vazon.

SCIOMYZIDÆ.

Lucina fasciata, *Mg.* Several at Petit Bôt in May.
Sciomyza Schœnherri, *Fln.* October. St. Andrew's.
S? dubia. Near the coast, Petit Bôt and Perelle Bays.
Tetanocera reticulata, *L.* By sweeping in damp fields, Petit Bôt and Saints'.
T. punctulata, *Scop.* Grande Mare, Vazon, in May.
Limnia unguicornis, *Scop.* Near Moulin Huet.
Elgiva albiseta, *Scop.* Petit Bôt in May.

ORTALIDÆ.

Rivellia syngenesiæ, *F.*

TRYPETIDÆ.

Acidia heraclei, *L.* Not uncommon in July and August.
Urophora solstitialis, *L.* Saints' Bay, July.
Sphenella marginata, *Fln.* One.
Tephritis emarginata. Not uncommon.

LONCHÆIDÆ.

Lonchæa vaginalis, *Fln.* Two at Fermain Bay.

SAPROMYZIDÆ.

Sapromyza fasciata, *Fln.* Several in July at Grande Marc. Vazon.

OPOMYZIDÆ.

Balioptera tripunctata, *Fln.* Petit Bôt in October.
Opomyza germinationis, *L.* Not uncommon at Perelle Bay, June 12th.

SEPSIDÆ.

Sepsis cynipsea, *L.* One in July, Vazon.
Nemopoda cylindrica, *F.* October.
Cheligaster putris, *L.*

PIOPHILIDÆ.

Piophila casei, *L.* (Cheese Fly). Sometimes abundant.

EPHYDRIDÆ.

Scatella stagnalis, *Fln.*

CHLOROPIDÆ.

Meromyza pratorum, *Mg.* Common in July.
Chlorops ? cereris, *Fln.* July, near Petit Bôt.

HIPPOBOSCIDÆ.

Stenopteryx hirundinis, *L.*
Melophagus ovinus, *L.*

LIST OF JERSEY DIPTERA

Published in "Ansted's and Latham's Channel Islands," 1865.

Ansted's List.	Corrected and named according to Verrall's List.
	TIPULIDÆ.
Tipula gigantea.	Tipula gigantea, *Schk.*
T. oleracea.	T. oleracea, *L.*
	TABANIDÆ.
Tabanus autumnalis.	Tabanus autumnalis, *L.*
	LEPTIDÆ.
Chrysopila aurata.	Chrysopilus auratus, *F.*
	ASILIDÆ.
Asilus crabroniformis.	Asilus crabroniformis, *L.*
Asilus fimbriatus.	(?)
A. pebelus.	Machimus atricapillus, *Fln.*
	SYRPHIDÆ.
Syrphus decorus.	Syrphus ? decorus, *Mg.*
S. balteatus.	S. balteatus, *Deg.*
S. ucilia cœsa.	S. (?)
S. pyrastii.	Catabomba pyrastri, *L.*
Eristalis tenax.	Eristalis tenax, *L.*

Volucella bombylans.	Volucella bombylans, *L.*
V. inanis.	V. inanis, *L.*
	TACHINIDÆ.
Echinomyia ferox.	Echinomyia ferox, *Pz.*
Vixia lateralis.	Olivieria lateralis, *F.*
	ŒSTRIDÆ.
Oestrus equi.	Gastrophilus equi, *F.*
	SARCOPHAGIDÆ.
Sarcophaga camaria.	Sarcophaga carnaria, *L.*
	MUSCIDÆ.
Musca equistris.	Lucilia ? sp.
M. rudis.	Pollenia rudis, *F.*
M. corrina.	Musca corvina, *F.*
Autonema hortorum.	Morellia hortorum, *Fln.*
Stomoxys irritans.	Stomoxys calcitrans, *L.*
	ANTHOMYIDÆ.
Asicia signata.	Hyetodesia signata, *Mg.*
Hydrophora nigrimana.	Hylemyia nigrimana, *Mg.*
Anthomyia radicum.	Anthomyia radicum, *L.*
	CORDYLURIDÆ.
Scatophaga analis.	Scatophaga analis, *Mg.*
S. stercoraria.	S. stercoraria, *L.*
	PHYCODROMIDÆ.
Cœlopa frigida.	Cœlopa frigida, *Fln.*
	SCIOMYZIDÆ.
Tetanocera obliterata.	Tetanocera reticulata, *L.*
	TRYPETIDÆ.
Tephristio heraclei.	Acidia heraclei, *L.*
	SAPROMYZIDÆ.
Sapromyza flava.	Sapromyza rorida, *Fln.*
	SEPSIDÆ.
Septis immaculata.	(?)
S. scolopoga.	(?)
	HIPPOBOSCIDÆ.
Hippobosca equi.	Hippobosca equina, *L.*

LIST OF BONES

Found in the peat at l'Ancresse Bay during the Summer of 1895, and identified by Dr. Henry Woodward, F.R.S., of the Natural History Museum, Cromwell Road, London.

———o———

(a) Bos Longifrons.—One Inferior Maxilla (left), with two molars and two pre-molars; one fragment of ditto (condyle and cormoid process). One upper molar; milk molars.

(b) Cervus Elaphus.—One Inferior Maxilla (left) nearly complete; four fragments of two ditto (left); four molars; two pre-molars; one incisor; three fragments of Superior Maxillæ: *(a)* Left three teeth, small animal; *(b)* right two teeth, ditto; *(c)* one tooth, large animal.

Eighteen fragments of cranium; atlas vertebra; fragment of axis vertebra; four other dorsal vertebræ; sacrum; three ilia; eleven fragments of costæ; one left humerus; one radius and ulna (left); one ditto (right); one femur; one patella; one astragalus; two carpal bones; three metacarpal and three metatarsal bones; one phalange (anterior); two ditto (posterior).

One humerus fragment of *Cervus*, shewing evidence of gnawing by carnivora, and fracture by flint (?) implement.

(c) Ovis?—One metacarpus.

(d) Sus Scrofa.—Three metapodial bones.

(e) Canis, Sp.?—Parts evidently of two individuals; two maxillæ; five teeth *in situ* (milk dentition); three costæ of ditto (?).

Thirteen fragments unnamed.

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Mr. T. Le Pelley, Beaucamp, Castel.
Rev. J. L. Le Pelley.
Mr. B. H. G. Le Febvre, Blanchelande, St. Martin's.
Rev. G. E. Lee, M.A., F.S.A., Union Street.
Mr. G. Le Masurier, Victoria Road.
Rev. F. E. Lowe, M.A., F.E.S., St. Stephen's Vicarage.
Mr. W. A. Luff, Mount Pleasant, Burnt Lane.
Dr. M. MacCulloch, M.D., F.G.S., Les Touillets.
Mr. MacCallan, Colborne Road.
Gen. F. B. Mainguy, Les Rocquettes.
Mr. E. D. Marquand, Fermain House.
Mr. H. Marquand, Victoria Terrace.
Mr. H. D. Mauger, George Road.
Mr. A. Mourant, Rozel Terrace.
Mr. D. Mollet, Hauteville.
Mr. B. Nesfield, St. Saviour's.
Mr. J. B. Nickolls, Grange.
Major C. H. Ozanne, St. James' Square, London.
Mr. E. Charles Ozanne, Queen's Road.
Mr. J. S. Paint, Arcade.
Miss E. R. Paint, King's Road.
Mr. T. W. Palmer, Mill Street.
Rev. W. C. Penney, M.A., Elizabeth College.
Mr. J. L. Pitts, F.S.A. (Normandy), Canichers.
Mr. A. C. Quick, Church Square.
Mr. R. H. L. Roberts, M.I.C.E., Swaziland.
Mr. P. E. Robilliard, La Piette.
Mr. H. Rogers, Scott's Hotel.
Mr. T. C. Royle, Arcade.
Mr. W. Sharp, Brock Road.
Mr. R. L. Spencer, Esplanade.
Col. A. Simon, Câches, St. Saviour's.
Mr. J. Hume Spry, Candie Library.
Mr. W. Stranger, jun., St. Sampson's.
Mr. J. Swinburne, F.R.P.S., 25, Saumarez Street.
Brigade-Surgeon Thornhill, A.B., M.D., T.C.D., Grange.
Miss Turner, Ladies' College.
Rev. R. H. Tourtel, D.D., Torteval.
Mr. L. G. Weygang, Smith Street.
Mr. J. Whitehead, F.R.G.S., Royal Hotel.

TRANSACTIONS OF THE SOCIETY.

Monthly Meeting held January 15th, 1896, Mr. A. Collenette, President, in the chair.

There was a fair attendance of members. After the usual formal business, Dr. F. de B. Collenette and Mr. Henri Marquand were unanimously elected members, and four persons were proposed for election at the next meeting.

Mr. W. A. Luff read the following note, sent by him to the *Entomologist's Monthly Magazine* of January, 1896, on "*Forficula auricularia*, var. *forcipata* in the Channel Islands," and also extracts referring to the forceps of *Forficula auricularia*, from a paper by W. Bateson, M.A., and H. H. Brindley, M.A., "On some cases of variation in Secondary Sexual Characters statistically examined," in which the authors refer to numerous specimens of the same variety found on one of the Farne Islands, off the coast of Northumberland :—

"On the west coast of Guernsey lies the small islet of Lihou. It is connected with Guernsey by a rough causeway, said to have been constructed by the monks (the ruins of whose monastery is still to be seen) to enable them to cross from one island to another during low tides. This causeway is about 700 yards long, and is covered during at least half of every tide. The islet is of rectangular shape, and is about 600 yards long by 150 wide. It contains one inhabited house with a few small patches of cultivated ground. The remainder is very sandy soil covered with grass and short herbage, and abounding in wild rabbits. Near the shore, under stones, I found numerous specimens of a large earwig. I submitted examples of these to Mr. E. Saunders, F.L.S., who considered them to be *Forficularia auricularia*, var. *forcipata*, Steph. I find, however, that Stephens, who gives an excellent figure of this variety in his "Illustrations," states that it is found in high trees at Coombe Wood and also in the New Forest. I have found the same variety on another but much smaller islet, not far from Lihou, called Chapelle Dom Hue, which is about 400 yards from Guernsey, and also accessible only at low tides. I have searched the coast of Guernsey opposite

these islets, but have found only ordinary specimens of *F. auricularia*.

"The large and curious spider, *Atypus Sulzeri*, Latr., is also very common on both these islets, many of their tubes going down a great depth into the sandy soil."

Mr. Puttock exhibited a group of the Cup Coral, *Caryophyllia Smithii*.

The President exhibited specimens of ores of gold, silver, lead and lead which had been found locally, supplied by Capt. Lukis and Mr. Talbot.

A letter was then read from Mr. Whitehead, Vice-President, in which he suggested the making of a collection of photos, sketches and plans of objects and places of local interest, and offering £2 towards the purchase of portfolios for keeping the same.

Mr. G. Derrick then read an interesting paper on "Cup Markings," describing at some length a number of these found in India, and he also referred to those found in Guernsey. Rubbings of some of these, made by Mr. Puttock, were exhibited. An animated discussion followed the reading of the paper.

Monthly Meeting held February 12th, 1896, Mr. A. Collenette, President, in the chair.

Miss M. Le Lievre, Mr. H. C. Le Lacheur, Mr. L. G. Weygang and Dr. Gibson were elected members, and one gentleman was proposed for election.

The Hon. Sec. announced the receipt of "The Proceedings of the Academy of Natural Science of Philadelphia, 1895," and of "The Proceedings of the Boston Society of Natural History," Vol. XXVI.

Dr. Boley exhibited a curious flinty mass, the nature of which could not be determined. This was sent to Dr. Woodward for identification, and he reported that these masses are found in Egypt, and are worked into their curious shapes by the action of the blown sand.

Mr. Luff read from the *Entomologist's Record* extracts from an article by the editor on *Callimorpha hera*, and also a note by Mr. Luff himself on the same subject. A horn, part of frontal bone and vertebra found in peat in Vazon Bay by Mr. N. Batiste in 1894 were exhibited. These, according to Dr. Woodward, may be those of *Bos longifrons* or *Bos taurus*, but not bison.

A short discussion followed.

Monthly Meeting held March 11th, 1896, Mr. A. Collenette, President, in the chair.

After reading and signing of minutes of last meeting, Miss Foster was proposed for election by the Secretary. Mr. J. Hume Spry was unanimously elected a member.

Mr. J. Whitehead presented to the Society, bound in one volume, all the papers by Rev. E. Hill and Professor Bonney on the Geology of the various Channel Isles (except Jersey) and outlying rocks.

The Secretary announced the receipt of :—

1. An Introduction to the Study of Rocks.
2. Guide to the British Mycetozoa.

both from the Trustees of the British Museum.

The President alluded to the sad accident which resulted in the sudden death of Mr. Z. Robert on the 5th inst., and the Secretary was requested to send a note of condolence to the family.

Mr. Luff exhibited a very beautiful carnivorous beetle, *Lebia chlorocephalus*, new to the Guernsey list. This specimen was found on the cliffs at Petit Bôt by Mr. Luff in February, 1896.

Monthly Meeting held April 8th, 1896.

The number of members present being so small, no business was transacted.

Mr. Hocart noted that in boring for a well near Le Houmet, Vale, on the property of Mr. Le Poidevin, a peat deposit 8 feet thick was bored through at a distance of feet below the surface.

Monthly Meeting held May 13th, 1896, Mr. A. Collenette, President, in the chair.

The minutes of the last meeting having been read and signed, Miss F. A. Foster was unanimously elected.

Gen. Hubert Le Cocq was proposed for election by the President.

The Secretary announced the receipt of the Proceedings of the Academy of Natural Science of Philadelphia, Part III., October to December.

Mr. Collenette exhibited a spindle-whorl (stone) and formerly used in Guernsey, found at Cobo.

Mr. Luff exhibited three distinct species of Galls on oak leaves and flowers ; the Currant Gall on the male catkins,

and read the following note about the interesting gall-fly *Spathegaster baccarum* :—

"These curious galls, looking much like a bunch of currants, appear on the male catkins of the oak in the month of May. The fly quits the gall in June, lives for a few days only, and nothing more is seen until the male catkins appear again the following May.

"What becomes of the eggs during this long interval? Spontaneous generation of the insect within a gall which had no external opening, had its advocates. Later it was believed that a form of metempsychosis took place, and galls were among the stepping-stones in the path of organic evolution by which the vegetable passed into the animal soul. By some it was supposed that the eggs, found in the fly in June, reached the ground, whence they were drawn up mingled with the sap, and arrested next spring in the leaves or flowering catkins, there to form the currant galls again. It remained for Dr. Hermann Adler, M.D., of Schleswig, to solve the mystery. He has proved, by a great number of experiments in breeding, the existence of alternating generations in many species of gall flies, for instance, eggs laid by the flies emerging from the Currant Galls, *Spathegaster baccarum*, are deposited in the young oak leaves on the under surface, and produce an altogether different form of gall, viz., the common Spangle Gall, *Neuroterus lenticularis*, Ol., the flies emerging from these spangles laying eggs, which in their turn produce the Currant Gall. For further information on this subject, one of the most wonderful chapters in the history of insect life, I must refer you to Dr. Adler's monograph on "Alternating Generations: a Biological Study of Oak Galls and Gall Flies," which has been recently translated into English by Charles R. Straton, F.R.C.S., F.E.S., and published at the Clarendon Press, Oxford."

He also shewed an addition to the Diptera of Guernsey, viz., *Merodon equestris*.

The Monthly Excursions having commenced since the last meeting, the Sectional Secretaries described the work done at the excursions to l'Ancresse, Fermain and Moulin Huet Bays.

Monthly Meeting held July 8th, 1896, Mr. A. Collenette, President, in the chair.

The Report of the May meeting having been read and signed, Gen. Hubert Le Cocq was unanimously elected.

A letter from Mr. J. J. Carey, stating his wish to resign his Secretaryship of the Archæological Section, owing to his want of time, was read. The Secretary was requested to thank Mr. Carey for his past services, for which the Society is so much indebted.

Mr. Weygang exhibited a good specimen of *Smerinthus populi* (Poplar Hawk Moth).

Mr. Derrick then read a very interesting paper on "The Flora of Sark," and exhibited specimens of those plants found there, and hitherto unrecorded for Guernsey, viz.:—*Dianthus armeria* (Deptford Pink); *Lysimachia nemorum* (Yellow Loosestrife); *Sceleranthus annuus* (Annual Knawell).

Mr. Luff then read an account of the work of the Entomological Section, and exhibited the species (108 in number) taken during the excursion to Sark on June 25th, viz., of Lepidoptera 13, Coleoptera 16, Hymenoptera 21, Diptera 40, Orthoptera 2, Hemiptera 16.

The President then gave a *resumé* of the geological work done during the excursions. This was followed by a discussion.

Monthly Meeting held September 9th, 1896, Mr. A. Collenette, President, in the chair.

A letter from Rev. F. E. Lowe was read, in which he states that he had captured two specimens of *Dianthœcia nana* flying over the flowers of *Silene inflata* in his garden on June 21 and 25. He also mentioned that he captured a female specimen of *Fidonia atomaria* (the Common Heath) in Jersey. This specimen is noticeable as being of the male colour.

Mr. W. Luff exhibited British specimens of *Dryophanta longiventris* (the Striped Gall), *Dryophanta scutellaris* (the Cherry Gall), *Aphilotrix fecundatrix* (the Hop or Artichoke Gall), none of which have yet been recorded for the island.

Mr. Luff also mentioned that the larvæ of *A. atropos* had been rather abundant this season. Mr. Derrick noted that he had already observed swallows gathering previous to migrating.

Mr. Collenette, in the absence of the Geological Secretary, gave a *resumé* of the work of the Geological Section during the recent excursions, particulars of which will be found in the Annual Report. The President also read a letter from Dr. Dunlop, of Jersey, and also from E. Sydney Hartland, F.S.A., Secretary of the Ethnographical Survey

of the United Kingdom, asking the Society to interest itself in ethnographical work. It was resolved that the matter be placed in the hands of the Council, who shall report to the Society.

It was also resolved that in future the monthly meetings be held on the third Wednesday in each month.

Monthly Meeting held October 21st, 1896, Mr. A. Collenette, President, in the chair.

After reading minutes of last meeting, Mr. P. E. Robilliard, of the Piette, and Rev. F. E. Le Lièvre, of St. Martin's, were elected members.

Miss Domaille exhibited a portion of a stone implement found on the cliff at Petit Bôt.

Mr. Luff exhibited (1) an old work (1662) on Entomology, by Goedaert, the Dutch painter, printed in Dutch, at Middelburg. It is remarkable as being the first work of the kind containing figures (coloured) of the caterpillars and chrysalides. The author spent more than 40 years in studying insect life.

2.—A copy of an early map of the Channel Islands, date 1550, from the original MS. of Leland's Collectanæ, Vol. III., now in the Bodleian Library.

3.—Also examples of the Hop or Artichoke Gall found on the oak in September. This is the first record of this gall for Guernsey.

Mr. J. S. Hocart exhibited pieces of broken pottery from the "Fairy's Well," near Fort Le Marchant, l'Ancresse. These were of a similar character to those found at Richmond and Ronceval, mentioned above. Mr. Royle followed with a short account of the botanical work of the summer, and Mr. Luff that of the Entomological Section. He noted four additions to the Coleoptera and one to the Hemiptera.

Mr. J. J. Carey exhibited several examples of masses of baked clay found at Richmond and similar to those previously found there by the Society, also pieces of pottery from the same district and from the limpet bed some 20 yards away; also a (broken) jar of coarse pottery found in a wall at Ronceval.

The President then exhibited and commented on the various bones, &c., found recently in the peat at l'Ancresse and Cobo. This was followed by a discussion, which brought a most interesting meeting to a close.

Monthly Meeting held November 20th, 1896, Mr. A. Collenette, President, in the chair.

The minutes of the last meeting having been read and approved, Mr. MacCallan, Colborne Road, was unanimously elected a member.

General Harvey read a note on the discovery of a skeleton at Les Pulias, near Grande Rocque Barracks.

Mr. Royle exhibited mounted specimens of some of the most recent additions to the herbarium.

Mr. Luff exhibited a specimen of a curious Myriapod, a species of *Scutigera*, captured in Pollet Street, on Oct. 29th, and read the following note on the subject :—

"I have pleasure in exhibiting a curious Myriapod, a species of *Scutigera*, captured in Pollet Street on Oct. 29th. The genus *Scutigera* is unrepresented in the British Islands. One specimen was captured in Scotland some years ago by Mr. Gibson Carmichæl, but was shown to have been imported, and not bred in the place.

"Mr. J. Sinel, in the recent edition of "Ansted's Channel Islands," says that specimens of *Scutigera coleoptrata* have been taken in Jersey, but seem confined to the vicinity of the harbours, and is not common. Several species are common on the shores of the Mediterranean and in parts of Africa, and this one has probably been introduced.

"The genus *Scutigera* is distinguished from all the rest of the Myriapods by its long legs, bringing it in this respect near to the spiders, which it resembles in its very rapacious and carnivorous nature. The *Scutigeridæ* are the swiftest runners amongst the Myriapods, and are able to move tail forward almost as well as in the ordinary manner. Where there are such a number of legs it becomes a curious question as to the order in which the animal moves them, and though several people have tried to find this out, the number of legs to be moved and their rapid movements have rendered accurate observation impossible. Some years ago Professor E. Ray Lankester tried to study the order in which the legs of Centipedes moved, and came to the conclusion (recorded in an amusing letter in *Nature*, 23rd of May, 1889), that if the animal had to study the question itself it would not get on at all. He finishes his letter with the following verses :—

A centipede was happy quite
Until a toad in fun
Said "Pray which leg moves after which?"
This raised her doubts to such a pitch
She fell exhausted in a ditch,
Not knowing how to run.

"The *Scutigeridæ* differ from all other Myriapods in the fact that they breathe by means of an elementary form of lung, and not by tracheæ. There are eight dorsal scales in these animals, each dorsal scale except the last bearing a peculiar lung-like organ. At the hinder end of the scale there is a slit which leads into an air sac, from which a number of short tubes project into the blood in the space round the heart, and serve to aerate it before it enters the heart. The heart, therefore, sends aerated blood to the organs, while in the tracheal breathing Myriapods the blood is aerated in the organs themselves, by means of tracheæ."

The President exhibited the bones (found at l'Ancresse and Cobo) which had been named by Dr. Woodward, and which turned out to be those of bird, frog, mouse, and the young of sheep or goat.

Mr. Hocart noted that Mr. Bichard was willing to present the "cup-marked" stone in his field at La Rochelle to the Society.

Mr. Luff read a paper by Mr. E. D. Marquand, ex-President, on "Additional Land and Fresh Water Shells of Guernsey," which will be found on a later page of this number.

Annual Meeting held December 18th, 1896, Mr. A. Collenette, President, in the chair.

The minutes of last meeting having been read and signed, a fine specimen of Starfish was exhibited, having six rays.

The Secretary announced the receipt of "Notes on the Reptiles, Amphibia and Fish of the Bristol District," by Mr. H. J. Charbonnier.

Mr. Collenette read an interesting statement on "The Sunshine in Guernsey for 1896."

Mr. Luff read a paper on "The Orthoptera of Guernsey."

This was followed by Mr. Collenette on "The Rainfall of Guernsey for 1896."

Then Mr. Luff read a paper on "The Sawflies of Guernsey."

The Hon. Secretary then read the Report of the Council, as follows :—

FOURTEENTH ANNUAL REPORT.

Ladies and Gentlemen,—In presenting its Fourteenth Annual Report, your Council is able to state that the Society is still continuing its useful work. Evidence of this will be afforded you in the Reports of the Sectional Secre-

taries. Ten indoor meetings have been held during the year with a fair average attendance. The excursions have also been continued, but various circumstances combined to make the attendance at them less numerous than last year. Many visitors availed themselves of these opportunities of visiting distant parts of the islands. Of these outdoor meetings twenty were held, the most important being that to the neighbouring Island of Sark.

The following papers have been read, viz. :—

On "Cup Markings," by Mr. G. Derrick.
"Flora of Sark," by Mr. G. Derrick.
"Additional Land and Fresh Water Shells of Guernsey," by Mr. E. D. Marquand.
"The Orthoptera of Guernsey," by Mr. W. A. Luff.
"The Saw Flies of Guernsey," by Mr. W. A. Luff.
"The Sunshine of 1896," by Mr. A. Collenette.
"The Rainfall of 1896," by Mr. A. Collenette.

While it is pleasing to record the addition of twelve names to the list of members, now standing at 103, it is with deep regret the Council records the loss by death of Mr. Z. Robert, Sir Edgar MacCulloch and Mr. Thomas Guille. Each of these gentlemen was a staunch supporter of the Society from its foundation. Mr. Robert frequently contributed information on the geology of the island, and also supplied the Society and the Museum with carefully prepared specimens of the various rocks of the group, with specimens of similar rocks from other parts of the world. More will not be said of the scientific work of these gentlemen here, as short obituary notices will be printed in the next number of the Transactions of the Society.

The following works have been received during the year, and to the donors of these the Council expresses its sincere thanks.

Proceedings of Boston Society of Natural History, Vol. XXVI.

Proceedings of Natural Science Society of Philadelphia, Vol. of 1895 ; also Part III., October to December.

Various papers on the Geology of the Channel Islands by the Rev. E. Hill, presented in a bound volume by Mr. J. Whitehead.

Introduction to the Study of Rocks ; Guide to British Mycetozoa. British Museum.

Notes on the Reptiles, Amphibia and Fish of the Bristol District, by the Mr. H. J. Charbonnier.

The Anatomy and Histology of Caveina Arenata, Gould, by Mr. J. H. Gerould, from Boston Society.

As you will hear from the Treasurer, the finances of the Society show a balance in hand of £6 7s. 1½d.

W. SHARP, Hon. Sec.

The Hon. Treasurer followed with a financial statement. The President then read the

PRESIDENT'S ADDRESS.

"The year which this evening terminates has, in most senses, been a very successful one. I need not enter into the numerical or financial position further than to say that we can well congratulate ourselves on having maintained the Society in the high state of efficiency in which the year found it at the commencement. The reports of the Secretary and Treasurer will do the rest.

"In looking around and comparing the work of our Society with like societies, I feel justified in declaring that we are not unfavourably placed. That we could do more I know, but that we do more than average work I also know, and as your temporary head I feel proud of the fact that we have worked together harmoniously and successfully.

"The introduction, some years since, of sectional work is now proved to have been a wise division of labour, and the appointment of sectional secretaries has greatly smoothed the working of our Society, while it has prevented the general secretary from the great increase of work which would otherwise have fallen to his share. But the true value of the sections is seen best in the field where each is free to study its own subject and roam over the ground unshackled by a following that is anxiously desiring to be somewhere else. I sincerely hope that the sections will not only maintain their usefulness but increase their number. And I cannot pass by this opportunity of pleading with the general membership to attach themselves more firmly to the Society by choosing a subject to which they will devote study, and by joining the section interested in their study.

"When we think that the Society is *par excellence* one of unselfish plodding usefulness, one in which no individual member can have any aim but the advancement of knowledge, and that, in the act of such advancement, he or she must increase his or her own store of knowledge, we have the greatest inducement to an increased display of useful energy. We may also claim that, though we may be free from any desire for personal benefit, yet a large and permanent good is to be derived by any who will work with us and for us, for just as

no person can teach without learning, so no person can collect facts for the Society without acquiring a store of information, the benefit of which is strictly personal. In this class of labour he who gives most gets most. I say, therefore, with great earnestness to all who are united to the Society by the bond of membership only, join a section and work, and you will derive more pleasure and benefit than you can now realise as possible.

"The Society has, however, something to regret, for it has suffered very severely at the hands of that remorseless enemy, Death, who has removed from us this year no fewer than three prominent members.

"Sir Edgar MacCulloch, who was president of the Society at the commencement, and remained in office three years, being followed by the late Mr. Th. Guille. Mr. Z. Robert, a useful member of the Geological Section, always willing to help beginners and bring specimens for the members to see.

"In Mr. Guille we lose a member who has not only been one who has taken a keen interest in our studies, but one who has occupied the chair and stood at the head of the Society, giving all, during the period of his presidential office, the feeling that beneath his quiet and calm exterior there was an under-current of strong will,—will to do his utmost to further the ends of our Society, will to bestow benefits upon it, and will to encourage effort,—but not will only, there was capacity also, a capacity which made him appreciate and foster talent, a capacity which enabled him to see the ultimate end and value of this Society, a capacity which led him to connect our seemingly dry and useless studies with the desired good to our island and advancement of our people. I honestly believe that Mr. Thomas Guille thought highly of the Society and would have looked upon its failure to secure its natural ends as a personal trouble and an insular loss. In Mr. Guille the Society loses a friend ; also, in another sense, to his kindness the Society owes the privilege of having possessed, ever since the opening of this library, a home, for not only did he grant it a meeting room free of expense, but placed it unreservedly in possession of the whole benefits of the institution, the officers of the Society never having been refused the use of both the Reference Library and the Museum for the purposes of their work in connection with the Society. We cannot, then, but feel that we have lost a friend indeed.

"I think it right in this address to call the attention of the members to the excellent work done during the year by

our sections. I am sure that you all have been impressed very favourably by the reports ; that you have noticed that the Botanical Section, under its leaders, Miss Dawber and Mr. Royle, has largely advanced its work, and this so thoroughly and well that it is not likely that future generations will find the disadvantages which we certainly feel from the want of correct methods in the collectors who have gone before.

"I regret that as yet the indefatigable Entomological Secretary stands alone in his section. Not, indeed, that Mr. Luff needs help, for he is a host in himself, and will, no doubt, succeed in completing his lists of insects without help, but because it is not wise that the work he has so ably accomplished should rest entirely on one life for completion. Surely in this, as well as in other subjects, we shall be able to induce a desire to study.

"Our Geological Secretary, Mr. De La Mare, is always at work, and his report has shown you that sectional work has not always depended on formal sectional meetings.

"Of the excursions I must not say much, but I cannot help speaking of the pleasant outings which are, as it were, a source of life and energy to the Society. I hope very sincerely that these will not be allowed to fall off. They can be encouraged even by uninterested members and by outsiders, for they afford opportunities for visits to places of interest and objects for outings which can but benefit both mind and body.

"And this brings me to the main portion of my address, for it is the information obtained at the excursions which gives me my topic.

"A part of the work of the Geological Section, and an important part too, has been the examination of the peat beds which surround the island. One fact has been prominently brought to our notice, that is that these beds may not all be of one period. It has been very common for us to speak of them as though they were, but when we come to work them under better conditions we shall find, I doubt not, that at least three separate periods are indicated. The elevations taken by Mr. Carey go to prove that the most recent of these beds, which underlie the marshy land of our west coast, are several feet above the beds which are exposed on the actual shore, and we have also reason to suppose that low down in the bays of l'Ancresse, Vazon and Cobo exist distinct beds in positions which prevent our placing them on the same geological horizon. Our study proves that the beds on the beaches are quite horizontal and that the exposed portions are the terminal outcrops, thinned and worn away by the friction of the

pebbles. In some places the upper and lower patches of peat seem to be separated by compact clay. Again, our studies have proved that the upper peat bed of our coast, which I believe to be the middle one of three, is, wherever found, practically the same. The trees are the same; the animal bones are the same; and, moreover, the signs of life, human life I mean, are the same. But of the lowest bed, if one exists, we are practically ignorant. Mr. Hocart, our energetic peat worker, is watching for us for an opportunity in the near future of examining the lowest level in l'Ancresse Bay, and no doubt the Geological Section will have some information to impart on this question next year. At present all we can do is to tabulate our knowledge in this way.

"That there are three levels of peat:—

1st.—A high deposit resting beneath the marshy land within the sea walls and extending inland, where it is found by excavation in several places on the lowlands.

2nd.—That at a lower level a bed exists which, as for example the one worked this year at l'Ancresse, is visible as an outcrop only.

3rd.—One many feet lower in the bays, of which at present we know only the fact that it contains the remains of fully grown trees.

"The middle bed has been prolific in its yield of bones. As you know, the Society has now a large number of these relics of bygone days. Unfortunately they are much broken, and prevent any approach to a complete skeleton, but through them we know that the bed belongs to Neolithic times, and that it may have flourished as a forest at the time of the building of the Cromlechs. As far as we at present know there is only clay between the beds, so that if at any time the Society could afford to sink from one level to another, there exists no obstacle to the work. Such an excavation would yield valuable results.

"I have not lost sight of the questions raised by last year's work as to a probable local glaciation of the island, but I feel that the question has not been much advanced. We may hold, however, that our observations have strengthened our hypothesis, for the clay examined during the year, with a view of obtaining evidence on the one side or the other, has confirmed our former results. Clays which yielded pebbles last year have again been found to contain them. I feel sure also that the yellow clays of the upper portion of the island separate, as far as the island is concerned, the Paleolithic

from the Neolithic period. As, however, the evidence of this rests chiefly on the presence of flint chips and bruised pebbles in the deposit, I do not wish at present to over-persuade you that it is so. I make these remarks more to move you to the careful aud detailed examination of the clays in the future, and the careful collection and examination of the pebbles found both for striations and for bruises, the one indicating the presence of ice, the other that of man. In your examination it would be well also to carefully look over any flint chippings found, and when convinced of the presence of one of undoubted Paleolithic age (and several have been found) to take note of the exact position as regards its place in the deposit.

"That I have advanced views of the clays and peats which the Society may be unwilling to confirm I am quite aware, but at the same time I have no desire to see these views adopted until fully tested, and I will gladly throw them over if evidence is obtained that will bear against them; all I want is to get at the truth, whether it is as conceived by me or not.

"I leave the presidential chair with both pleasure and regret. With pleasure, because I have been able to repay in part, by devotion to the Society's work, the confidence you have reposed in me. With pleasure also, because I leave it to be occupied by another who, by his fresh methods and his fresh influence, will give a fresh impetus to the Society and lead it on in fields of work viewed from another standpoint. I leave it with regret, because in this the Society's gain will be my loss, for I shall be less in touch with the officers and members than I have been. With regret also, because I shall have less opportunity to help on the Society, which for many years has been to me a source of mental pleasure and profit. My shortcomings and faults I hope will be overlooked, for my earnest desire for the success of the work of the Society will be found to be, in part, their cause."

This was followed by the election of Mr. G. Derrick as President, the re-election of Mr. W. Sharp as Hon. Secretary, and Mr. W. A. Luff as Hon. Treasurer, and Miss M. Dawber, Mr. E. Charles Ozanne, Mr. J. J. Hocart, Mr. T. C. Royle, Mr. G. C. De La Mare and General Harvey to form the Council.

REPORT OF THE GEOLOGICAL SECTION.

SUPERFICIAL DEPOSITS.—PEAT.

As the examination of the peat deposits has formed the most notable feature of this year's work, it has been thought advisable to collect the results under one heading. In consequence of the finds of bones at l'Ancresse recorded in last year's Transactions, the Geological Section resolved to devote special attention to that locality, and their expectations of good results have not been altogether disappointed. A further considerable quantity of bones has been discovered, and these have, like the previous finds, been submitted to Dr. Woodward, of the British Museum, for identification.

The section having been informed that the storms which occurred in the early part of October had laid bare the peat at Cobo, made a special visit to that locality. Various land shells were found, a report of which will probably appear later, also a few bones which, with others found at the same spot by non-members of the Society, have also been identified by Dr. Woodward.

A list of the bones found as above both at l'Ancresse and at Cobo appears in another part of these Transactions.

It was also decided to investigate the Vazon peat deposit, which is the most extended and best known in the island. The Society is much indebted to Mr. P. E. Robilliard, of the Piette, who kindly provided five men with picks and shovels to remove the shingle and dig the peat. The peat was found covered by about 2 feet of shingle. Three separate openings were made, but only the usual components of the peat were found, viz., branches and roots of trees, flag leaves and moss. The peat was about 1 foot thick.

In December a small patch of peat was exposed in Belgrave Bay, opposite the first mile stone. It had been eroded by the rolling of the shingle, so that only 2 or 3 inches remained. It was of the ordinary kind and rested on a layer of hardened clay which contained rootlets. Beneath this hardened clay a deposit of plastic clay occurs somewhat resembling the "souale" generally found in the low-lying parts of the island, but in some parts it appeared to result from the decomposition of rock *in situ*. The peat is doubtless the continuation of a layer underlying the marshy meadows along the Banks.

OTHER SUPERFICIAL DEPOSITS.

1.—*St. Peter-Port.*

A pocket containing clay with interstratified sand was exposed by the removal of the wall of Les Frères Cemetery.

It occurred in the upper part, next to Mr. J. D. Priaulx's building, was about 7 feet deep and rested on decomposed syenite.

An excavation in Mr. Trevithick's field at King's Road revealed 6 feet of sandy clay somewhat stratified, resting on a well marked but irregular surface of decomposed rock.

2.—*Vale.*

A well at La Rocque Balan showed 4 feet of sand overlying 3 feet of yellow clay, the latter resting on rock.

An excavation in the dunes between Portgrat and Rousse gave a section as follows :—

8 feet white sand.
2 feet dark do.
5 feet dry mossy peat, with flag remains.
White sand.

3.—*Rocquaine Bay.*

The cliffs at the junction of St. Pierre-du-Bois and Torteval parishes were found to have been cut back during the winter of 1895-96, and presented a new and interesting section near the slip at the south-eastern corner of the bay. This deposit is well stratified, and the peaty layers occurring therein at a depth of 15 or 16 feet from the surface deserve special notice. The details are as under :—

2 feet black sandy soil.
2 feet yellow clay with occasional pebbles.
5 feet rubble band, chiefly formed of small angular stones, in a clayey matrix.
3 feet, but with fewer though larger stones.
5 feet clay with small angular stones and a few larger ones, interstratified with layers of purer clay. In the lower part occurs a stratum of black peaty earth 4 or 5 inches in thickness, also two other thin layers or rather streaks of the same nature.
3 feet old or raised beach, the base of which is concealed beneath the modern beach.

4.—*Les Thielles.*

Superficial deposits are rare on the south-western coast of this island owing to the abruptness of the cliffs. A deposit of 2 feet of clay with pebbles underlying 2 feet of soil was, however, noted at the foot of a path leading down the cliff between Les Thielles and Creux Mahie.

5.—*St. Martin's.*

Some members of the Society having expressed doubts as to the stratification of the deposits at Divette in the manner reported in previous Transactions, this locality was revisited and other sections along the coast between Fermain Bay and Jerbourg inspected, the members of the Society present on the occasion being satisfied that the conclusions previously arrived at were justified.

The widening of Rue Cauchée exposed 10 feet of sandy clay showing signs of stratification at the corner of the road. From Mr. Cameron's statements it appeared that no clay was found in digging the foundations of his house on the same field, the soil resting on decomposed rock.

ROCKS.

1.—*Coast East of Vale Castle.*

The patch of rocks north of the reclaimed land on which Griffiths & Co. have erected a stone-breaking machine, consists of syenite with diorite. The diorite occurs in two forms, viz. *(a)*, inclusions, and *(b)*, more or less distinct veins. Both the syenite and diorite are cut by granitic veins of lighter colour which in some places form a net-work in which the syenite and diorite occur is angular fragments. The rock thus resembles a dreceia, which by weathering acquires a very peculiar appearance. It would seem that the granite was in a comparatively cool condition at the time of its intrusion.

2.—*Coast between Albecq and Cobo.*

Two diabase veins have been noted cutting the granite. One two feet thick where undivided breaks up into several minor branches with a general east and west direction, is of a green colour mottled with purple. Fragments and pebbles of it might be mistaken for a fine grained sandstone. Another dyke, 3 feet wide, similar in character and direction, was found cutting quartz veins in the granite.

3.—*Petit Bôt Bay.*

A very interesting vein of fibrous quartz was noticed on the east side of the bay. The laminated diorite veins in this locality are worthy of attention, and are similar to those in Talbots Valley.

4.—*Moulin Huet Bay.*

The quartz veins here cut all other rocks ; in other words, they are the most recent.

5.—*Cave at Les Thielles.*

A cave west of the arched promontory has been visited. It is due to the erosion of a black diorite vein in gneiss. Its direction is east and west. The opening is almost blocked up by falls of rubble forming a cove about ten feet high, somewhat similar to that at the entrance of Creux Mahie. The opening above the cove is only sufficient to permit of a person crawling through, but once within there is plenty of space, the cave being 63 feet long, 20 feet wide at the entrance close to the base of the cove, narrowing to 4 feet. The height was not measured, but is considerable. One side is perpendicular, the other slopes at a high angle, resembling in this respect also the more considerable cavern at Creux Mahie.

Erosion on the West Coast of this Island.

Mr. J. J. Carey has communicated a note on the erosion of the coast on the west of the island, which has been considerable of late. The cliff at Rocquaine, of which a section is given in this report, has been further cut back during the October storms, and near Lihou Island fresh exposures of raised beach have been made. In this locality a small cave 8 or 9 feet deep has ceased to exist, owing to the removal of its sides by the action of the sea. The Geological Section are thankful to Mr. Carey for having placed marks in certain portions of the coast most exposed to erosive action, by which it is hoped the extent of land which may be henceforth removed will be ascertained.

C. G. De La Mare, Sec. Geo. Sect.

Mr. A. Collenette having transmitted some specimens of Guernsey rocks to Mr. W. W. Watts, Geological Survey of Great Britain, Jermyn Street, London, has kindly permitted the publication in these Transactions of the following report :

Sent July, 1895.

1. E. 2,554.—"Vein Diorite, Jethou."* A sericite schist with a few eyes of quartz. No original structure left.

2. E. 2,555.—"Porphyritic Quartz Syenite, Richmond." This is a rock showing porphyritic crystals sometimes a quarter of an inch across of plagioclase felspar and made up, as the microscope shows, of abundance of smaller crystals of the same mineral, a few large and many small crystals of augite all set in a minute matrix. There is much iron ore in the slide. We are now calling rocks of this character *Por-*

* This rock is referred to in the report for 1894, page 331, lines 6 to 13.

phyrites; and this would be an augite-porphyrite. These rocks frequently occur as dykes in the neighbourhood of the less acid granites and of diorites. 3. It is a binary granite or aplete with some epidote.

4. E. 2,556.—"Gneiss in which 2 is intrusive, Richmond." A gneiss made up of granulitized quartz and felspar, containing a very large amount of epidote.

5. E. 2,557.—"Part of the same gneiss." A gneiss in which much plagioclase felspar and quartz are recognisable with less epidote, but otherwise like E. 2,556. It is granulitic.

6. E. 2,558.—"Vein diorite of the district, Richmond." A fine grained but holocrystalline rock consisting of plagioclase felspar, hornblende now converted into chlorite, some quartz and abundant iron ores. A diorite.

Sent August, 1896.

1. E. 2,677.—"Dyke cutting gneiss of south side of Guernsey." This rock has the composition but not the foliated structure of a hornblende schist. Small angular grains of quartz are abundant in it, and a few larger grains also occur, also a few felspar crystals. The main mass of the rock is made up of a felt of minute hornblende crystals set among quartz and felspar. No original igneous structure is now visible; and for the present it will be safer to call the rock a hornblende schist, remembering that it has not the platy or foliated structure of most rocks of this class.

2. E. 2,678.—"Albecq. Fairly wide dykes cutting the granite W. of the island." A porphyritic diorite. Plagioclase felspar and altered hornblende set in a ground mass of smaller crystals of the same constituent with a little secondary quartz. All the minerals have undergone much decomposition with the formation of mica, chlorite and hydrated iron ores, probably owing to the influence of percolating water.

3. E. 2,679.—Same. Practically same rock as the last, but not in quite so decomposed a state. Even here, however, the minerals are decomposed, but some of their original characters, such as the twinning of the felspars, are still visible. I see in these two last rocks nothing to connect them with 2,677. Indeed, everything points to a marked distinction. All original igneous structure has disappeared from 2,677 owing to the metamorphism of the area, while the two others have suffered from nothing more than surface decomposition, their igneous character being quite unmistakeable.

Two rocks sent January, 1895.

1. E. 2,281.—"Granite vein intrusive into diorite Portinfer." The slide of the rock shows the apparent intrusion of a granilite rich in hornblende, into one poor in that mineral.

2. E. 2,282.—"Vein intrusive in hornblende schist, Guernsey." No further locality and no description furnished. A vein of oligoclase felspar and quartz intrusive along the foliation planes into the hornblende schist.

(Signed) W. W. Watts.

March 5th, 1897.

REPORT OF THE BOTANICAL SECTION.

The past season has not been a productive one as far as Guernsey proper is concerned. No addition has been made to its flora. This may be accounted for partly by the dryness of the season, a condition which is unfavourable to this class of work, partly by the small number of workers now in the section and its consequent inability to pay frequent visits to the various districts of the island, but chiefly by the exhaustive character of the lists which have already been published.

Considerable additions have been made to the Herbarium, which is now, for all practical purposes, complete, the remaining desiderata consisting of forest trees, most of which have probably been introduced, and of the difficult genera Rubis and Salix which have to be submitted to experts for identification.

Lists of the floras of Herm and Jethou have appeared in former Transactions, and may be considered fairly complete, and but few additions can be anticipated from these small areas.

Profitable work has been done in Sark, chiefly by Mr. Derrick, whose paper on the flora of this island was read before the Society on July 8th last, and forms the only contribution of the section to this year's Transactions. The result has been three additions to the Society's flora of the bailiwick, two of which are new to the flora of the Channel Islands. A list of these additions will be found accompanied by short comments appended to this report.

Most of our rarer plants have been noted in some plenty in their old habitats. Of these *Orchis morio* has been found to range over a much larger area than has been previously known, and *Centaurea aspera* was observed in unusual quantity

on Vazon green and the neighbouring meadows, over which it appears to be spreading.

No opportunity has offered for further investigation of the flora of Alderney. The compilation of a list for this island forms the most important part of the work at present open to the section, and we shall be very grateful for any plants members visiting the island may have the goodness to collect and forward to us.

Dianthus armeria, *Lund.* Sark, sparingly in Baker's Valley, collected by Mr. S. Collens in 1895, and again by him and Mr. Derrick this year. This plant is new to the Channel Island flora.

Schleranthus annuus, *Linn.* Mr. Derrick, Sark, frequent in cornfields. This plant is recorded by Babington as common in all the islands except Jethou. It has not been since recorded except for Jersey, and would appear to be extinct or very rare in Guernsey and Herm.

Lysimachia nemorum. Sark, Baker's Valley, in good quantity, Mr. Derrick. This plant is also new to the Channel Island flora.

T. C. Royle, Sec. Bot. Sect.

REPORT OF THE ENTOMOLOGICAL SECTION.

During the past season this section has been represented at most of the excursions of the Society, and many interesting captures and observations have been made.

It is interesting to note that *Gonopteryx Rhamni* (the Brimstone Butterfly), usually a scarce insect with us, has been abundant during July and August, and numbers have been captured mostly near Saints' and Petit Bôt bays. On the other hand *Pyrameis cardui* (the Painted Lady), in some seasons an abundant insect, has been almost altogether absent; in fact I have not seen a single specimen.

Larvæ of *Acherontia atropos* (the Death's Head Moth) have been very common in the potato fields, and numerous specimens have been brought to me. Several of these safely entered the pupal state, and two specimens of the moth emerged during October, the others are remaining over until next year.

Mr. Baker has induced several moths of this species to emerge prematurely by the application of artificial heat. One of these is an interesting aberration, having the black bar on the left hind wing altogether absent, although it is present on the right hind wing.

The Rev. F. E. Lowe records the capture of two specimens of *Dianthæcia Nana (conspersa)* on June 21st and 25th. They were flying over the flowers of *Silene inflata* in his garden. In the list of the Macro-Lepidoptera of Guernsey, published in the Transactions for 1889, I mentioned the

capture of this species by the late Miss L. Renouf, many years ago. It is interesting to note that it still occurs with us.

On June 25th the Society made an excursion to Sark; the weather was fine and insect life was abundant. During the few hours spent on the island we were able to collect 108 different species, classed as follows:—13 species of *Macro-Lepidoptera* (9 Butterflies, 4 Moths), 16 *Coleoptera*, 21 *Hymenoptera*, 40 *Diptera*, 2 *Orthoptera*, and 16 *Hemiptera*.

One of the most interesting captures was that of a specimen of *Cetonia morio* (the Black Rose Chaffer). The beautiful metallic green Rose Chaffer, *Cetonia Aurata*, which is not found in Guernsey, was very abundant.

On October 29th a specimen of a very curious long legged myriapod, a species of *Scutigera*, was captured in the Pollet by a workman and taken to the Guille-Allès Library.

The *Scutigeridæ* are not represented in Northern Europe, but are common on the shores of the Mediterranean and in Northern Africa, and it is most likely that this specimen was imported.

Attention has been directed to the insects forming galls on the leaves and branches of oak trees, and of these nine species have been found and exhibited at the meetings of the Society.

Thirty-five species of *Diptera* have been added to the list published last year. Seven species of *Coleoptera* and one *Hemipteron* have also been added to the lists already published.

Lists of the *Orthoptera* and *Tentheridinidæ* of Guernsey have been read before the Society and will be published in the Transactions.

The number of species of insects of all orders now recorded for Guernsey in the Transactions is 1,514.

LIST OF OAK GALLS COLLECTED IN GUERNSEY DURING 1896.

Order, **HYMENOPTERA.**

FAMILY CYNIPIDÆ.

Neuroterus lenticularis, *Ol.* The common spangle gall.
N. laevinsculus, *Schenk.* The smooth spangle gall.
N. numismatus, *Ol.* The silk button spangle gall.
N. Ostreus, *Htg.* The oyster gall.
Spathegaster baccarum, *L.* The currant gall.
Andricus curvator, *Htg.* The curved leaf gall.
Aphilotrix fecundatrix, *Htg.* The artichoke or hop gall.
Dryophanta divisa, *Htg.* The scarlet pea gall.
Cynips Kollari, *Hartig.* The marble gall or oak apple.

ADDITIONS TO THE LIST OF THE COLEOPTERA OF GUERNSEY.

Lebia chlorocephala, *Hoff.* One specimen under a stone on the cliffs near Saints' Bay.

Trechus lapidosus, *Daws.* Two specimens found under stones near the shore at Vazon Bay.

Homolata triangulum, *Kr.* Common in haystack refuse near Vazon.

H. angustulata, *Gyll.* One specimen, Gouffre, April 30th, 1895.

Hister purpurescens. One, path going down to Saints' Bay.

Clythra quadripunctata. Found amongst some beetles collected by the late Mrs. Collings and labelled "Sark."

Tribolium ferrugineum, *F.* One specimen captured, crawling in shop in Mansell Street.

ADDITION TO THE LIST OF HEMIPTERA-HETEROPTERA.

Trapezonotus distinguendus, *Flor.* One specimen taken by sweeping near the Gouffre.

W. A. Luff, Sec. Ent. Sect.

REPORT OF THE FOLKLORE SECTION.

The report of this section for the past year is a brief but mingled yarn of congratulation and regret—congratulation that the work of the section continues to open up most satisfactorily, but regret that three of our most esteemed and valued members have recently been removed by death. The fatal accident to Mr. Zachary Robert (March 5th, 1896); also the deaths of Sir Edgar MacCulloch (July 31st, 1896), and of Mr. Thomas Guille (December 4, 1896),—the two latter at different times ably occupying the presidential chair of the Society—have deprived us of coadjutors in the cause of scientific investigation, whose places will be very difficult to fill, and whose loss we all sincerely deplore.

It will interest the members to know that Sir Edgar MacCulloch has left a valuable and voluminous manuscript on the Folklore of this island, the materials for which he gathered some fifty years ago, when the old customs and traditions were much more prevalent than they are now. This manuscript was left by Sir Edgar to the Guernsey Royal Court, who have decided to publish it very shortly. It is to be edited by Miss Carey, of the Vallon, and will be a most interesting and valuable addition to our local knowledge of the subject. Miss Carey, who recently became a member of our Society, is a young lady who has already done much excellent work in the investigation of our insular Folklore, in which she takes a deep and genuine interest. This section also is indebted to her for the communication of a number of interesting items of information.

In my report for 1894 I mentioned the apparent dearth among us of that class of legendary lore generally known as folk-tales, or household-stories. I am, however, glad to record that since then, further investigation has shown that this dearth is not really so great as was supposed. Careful search has brought to light several of these traditional narratives. Certainly they were rapidly passing into oblivion, but they have now been rescued and recorded. In this connection too, I may mention that Mr. J. Le M. Bougourd has kindly assisted in tracing certain traditions current in the northern part of the island ; while the Rev. R. H. Tourtel, B.D., Rector of Torteval, tells me that he is still adding considerably to the list—taken from an old manuscript—of the ancient names of rocks, creeks, bays, &c., on the south coast, to which I referred in a previous report (1894). These additions and elucidations will render the record much more interesting and complete.

J. Linwood Pitts, Sec. Folklore Sect.

CUP-MARKINGS.

BY MR. G. T. DERRICK.

———o———

MOST members of this Society are aware that cup-markings are to be seen on two ancient stones in Guernsey. One of these stones is close to the Forest Church; it is the last stone in the wall bordering the high-road on the left hand side going from town, at the top of the road leading down to Petit Bot Bay. On the vertical face of this stone is one clearly cut cup-mark, *i.e.*, a saucer-like hollow $3\frac{1}{4}$ inches in diameter and half-an-inch deep; there are two other depressions on the same stone, but they are so disfigured by weathering that their artificial origin may be doubted. The same stone has an inscription, cut on it about 200 years ago, and this makes it probable that the stone was then removed from its original position and placed on its present site.

The second cup-marked stone is one of the vertical props of one of the minor cromlechs on l'Ancresse, very near the horsepond. On this stone there are seven similar hollows in a line, roughly parallel to and not far from the vertical edge of the stone, and continuing along both the top and bottom margins of it. The attention of members has been previously called to these marks, and their purpose has been casually discussed on more than one occasion. This is my excuse for bringing before the members some references to exactly similar markings which have been observed in India.

The volume from which I draw my information contains several papers read before certain antiquarian societies in India; the principal one is entitled "Archæological Notes on Ancient Sculptures on Rocks in Kumaon, India"; the author is H. Rivett-Carnac, Esq., who first reported them at meetings of the Asiatic Society of Bengal in 1870. The book is the property of J. J. Carey, Esq., a very active and useful member of this Society. I have his full approbation of the use I am making of his book this evening. I feel I ought to apologise to him for touching on a subject which he would be far more capable of handling, from his knowledge of the country where these remains are found, from his special interest in archæological subjects, and from his having himself

examined many of those ancient stone monuments in India which exactly correspond to the Druids' Altars, &c., of Western Europe.

The first great collection of Indian cup-markings mentioned is in Kumaon, a district of North India, among the Himalayah Mountains. It is situated on the side of a bridle-path leading to a celebrated shrine at Bidranàth. The path passes through a narrow defile, at the mouth of which is the temple sacred to Mahadeo, at a spot where the pilgrims generally halt for a short time. They occur on a rock forming the natural surface of the slope, rising at an angle of 45° to the height of some 70 feet above the stream. They are not quickly perceived, but on a careful observation the rock is seen to be covered with cup-marks and sculpture. In a space 14 feet by 12, upwards of 200 such marks can be counted. They are of different sizes, varying from 1½ inches to 6 inches in diameter, and in depth from ½ inch to 1 inch; more generally arranged in nearly perpendicular rows, and in groups, which vary both in the number of cups in each line, and in size, *e.g.:* In the sketch given commencing on the left, there are: 1st, 4 cups in a separate row, then 3 rows of large cups in a group, 9 in one row, 7 in next, and 7 in the 3rd, then a single row of 15 smaller ones, then a group consisting of 3 rows of 17, 14 and 15 small cups, and so on.

Most of the cups are simple (like those on the l'Ancresse stone), but some few have an incised ring around them; in one set all the cups have grooves or gutters running from them, and in some cases these grooves form patterns, very similar to the patterns (without cups) figured on the stones of cromlechs at Carnac in the Morbihan.

These cup-markings have subsequently been found to be fairly scattered throughout India. Several are mentioned on stones forming circles, &c., in the same district. A group, or series of groups some hundreds in number, are figured from Chandeshwar in Central India. From 70 to 75 cup-marks occur on a porphyry stone between Jubbee and Nikkee in the Indus Valley, and nearly always the stones upon which they occur are either in cists or constructions resembling cromlechs, or in stone circles or monoliths, all of which, if found in Western Europe, would have been called Druidical remains, and as the Druidical religion never extended into India, the term Druidical is wrongly applied to these structures in any country, ancient stone monuments being an indisputable name for them.

Our author then discusses the purpose of these marks, his conclusions are twofold :—

First: That the variety in number and size of the hollows is evidently intentional, therefore it has some meaning, and he suggests that they may be a kind of writing, comparable in principle to the Ogham character in Western Europe, lines being easily made in stratified rocks there generally used for this purpose, but difficult to cut in the harder unstratified rock used in India and elsewhere; consequently circles and cups take the place of lines, the circular cups being made with fair ease, by continuously whirling a stone round on the same spot. Viewed in this light, "Each line or group of cups might spell the name of the individual who made them, or who set up the stone on which they are worked, or the marks may denote the age of the deceased, or the number of his children, or the number of enemies slain by the warrior" whose remains are buried in the tomb or space encircled by the stones.

Secondly: He agrees as to their antiquity with the natives of the country, who could give no information as to their origin, they had no knowledge of who made them, they were most probably the work of the giants or the Goálás (herdsmen) in days gone by. Again "From the people of the neighbourhood and even from the Brahmans and other learned persons of Nagpore, who speak with authority on the ancient history of the province, no satisfactory information regarding the tribes who constructed these barrows is to be obtained. Some will tell you the story that these mounds are the works of giants, or the Gaolees or Shepherd Kings, regarding whose rule in Central India, at a period prior to the Aryan invasion, a deep-rooted tradition exists." "That these circles are very old, the condition in which they are now found distinctly shews, and the remains discovered therein leave no doubt that they were once the burial places of a people of whom these circles are now the only traces that remain." These circles are the ones on which the cup-markings are found, for on the next page we read: "Each circle, however, generally contains 2 or 3 stones larger than their neighbours, which from their comparative regularity of shape would appear to have been artificially dressed; it is on these selected stones that the cup-marks resembling those found on exactly similar tumuli in Europe are to be seen." Just one example to show their similarity to the ancient stone monuments of Western Europe. Colonel Meadows Taylor placed side by side in his sketch, barrows examined by him near Alnwick in Northumberland, and the tumuli of the Dekhan in India explored by him in 1851, and it will be seen that in nearly every respect, the burial places are counterparts of one another.

The conclusion to which our author comes in this connection is :—" It seems, then, hardly improbable that the ruins in Europe are the remains of that primitive form of worship which is known to have extended at one time over a great portion of the globe, and which still exists all over India, and that these markings are the rude records of a nomadic race which at an early epoch of the world's history left the Central Asian nursery, and travelling in different directions have left their traces in Europe as in India, of tumuli and rock sculpturings generally to be found in hill countries and in accessible spots, whither at a later period they were forced to retreat before the advance of a more civilized and a more powerful race."

In trying to show the possible connection of these marks with the religious observances of the people who made them, our author bases his arguments on their similarity to objects used or erected by the Hindoos of the present day, in connection with the worship of Siva or Mahàdeo, and undoubtedly the resemblance is very close, and the connection seems evident. In the temple near the sculptured rock in Kumaon, before mentioned, beside the principal shrine, he counted 37 minor shrines, consisting mostly of a rough pedestal formed of loose stones surrounding a Mahàdeo and Yoni. The Mahàdeo (representing the deity) is an upright stone, more or less carved ; the Yoni is a horizontal stone or stones of the well-known jews'-harp shape.

But in the poorer type the upright stone is missing, and the structure or single stone is apparently a conventional rendering of the same idea, a kind of ground plan of the proper Mahàdeo and Yoni. Some 20 or 30 of these occur in the Chandeshwar enclosure, varying from a well-defined inner and outer circle to a very poor type, which is little more than a rough cup-mark surrounded by a circle and gutter ; the centre mark would appear to do duty for the linga (Mahàdeo), the circle for the Yoni, and the gutter is the depression to be found on most stone Yonis, by means of which the votive libations are drawn off from the symbols. The old priest at Chandeshwar said :—" Those who can afford it put up a big Mahàdeo, those who cannot, put up these slabs." And thus the symbols of the Mahàdeo and Yoni are indicated on these stones by a ground plan which has degenerated into the rough conventional treatment of the cup-mark and circle so common on monoliths in Europe as well as India.

It is to be noticed that native surveyors indicate on their plans the position of a Mahàdeo temple by a sign exactly resembling these markings.

To me there is a difficulty in accepting the conclusions at which our author arrives. If the cup-markings were made by modern Hindoos, or by a race practising Lingam or Mahàdeo worship, this explanation would be sufficient, but this same writer distinctly tells us, and all authorities agree, "That the customs and religion of the ancient tribes who are believed to have erected these stone monuments, and to have made the cup-marks, disappeared before the combined influence of Brahminism, Buddhism and Jainism," how could the ancient tribes have adopted from modern Hindoos this devise to represent a deity or altar.

With regard to the cup-marks at Bidranath, I consider that the place was for some reason considered sacred by the aboriginal inhabitants who made the cup-marks, and who continued to practice their religious ceremonies on the spot after their conquest by the Aryan tribes, who were thus led to erect a temple to their Gods on the spot which already had strong claims to sanctity, just as in Western Europe Christian churches were often erected on the sites of Druidical temples.

I think most of us will agree :—

1st, That the ancient stone monuments of India are very similar to those found in Western Europe, and there generally called Druidical monuments.

2nd, That they were erected by similar tribes, or by people who had received their knowledge of such structures from a common source.

3rd, That one race of people spread in ancient times over Western Asia, North Africa and all Europe, who in all these parts had many customs and manners in common.

4th, That these monuments (except the larger stone circles), were sepulchral and probably marked the burial place of some mighty chief.

5th, That the cup-marks had some meaning, in some cases they may be a kind of writing.

6th, It is suggested that these monuments were not erected in any of these countries until the aboriginal races, who erected them, had been driven out of the level and more fertile districts by a more powerful and more civilized people, the Aryan races.

The opposite theory has been advanced to account for those in Western Europe, viz. : That they were erected by a people newly arriving in those countries, invading it from the sea, so that they mark the burial places of the warriors of an invading race seeking to establish itself in a new country.

Similar monuments are erected at the present day by some of the hill tribes of India, who are the remaining representatives of the aboriginal inhabitants of the country.

Since this paper was read, the attention of members has been directed to some other cup-marked stones.

1st, A stone at the entrance to the quarry west of Swansea Villa, Vale. On this, there is one distinct cup-mark similar to those already described on its vertical face, a less distinct one on the top, and some smaller indentations which appear to me of doubtful character. This stone has been offered to the Society for preservation.

2nd, A large stone forming part of the erection to support a gate across a road called Route du Passeur, opening on l'Ancresse Common. There is a distinct cup-mark on this stone, which is on the south side of the gateway.

3rd, A stone at St. Saviour's, near the original pumping-station of the Guernsey Waterworks Company.

4th, A stone at the Fosse, St. Martin's, part of an old cider-press, it has been lying in the road close to the chapel for about 20 years. The stone has been hollowed to form part of the trough of the press; on the opposite side of the stone are a number of well-marked cups, which may be described as being in two sets, separated by a gutter running across the stone from one of the cups, which are rather smaller than those on the Forest or Vale stones. None of the other stones forming the trough are thus marked.

Careful search may lead to the discovery of other similarly marked stones. It is to be hoped that steps will be taken to preserve these as well as the few ancient stone monuments still left in the island.

THE FLORA OF SARK.

BY MR. G. DERRICK.

THE great attraction of Sark is the coast scenery, grander and more varied than that of either of the other islands ; so, visitors immediately on landing hurry to the Creux Terrible, the Coupée, or the Gouliot Caves. But even in doing this, if they have any knowledge of wild plants, and have observed those of Guernsey, they will receive the impression that those they see in Sark are very similar to the ones noticed in the high parishes and on the cliffs of the larger island, though the abundance of *Chrysanthemum segetum* (Corn Marigold) and *Lotus* (Birds'-foot Trefoils), especially *Lotus corniculatus*, marks a certain dissimilarity.

Early in the year primroses are even more numerous and finer than in Guernsey, and many monstrosities have been gathered : the corolla of one had sixteen segments, plants with five or six heads growing on a common stem are not unusual ; blue-bells carpet large areas in the furze-brakes ; on the cliffs and rocky coasts sea-campion *(Lychnis maritima)* and thrift *(Armeria maritima)* are as conspicuous as in similar situations in Guernsey, while large areas are covered with furze, which is the common fuel of the cottagers.

The island is naturally divided into two parts, Great and Little Sark, connected by the Coupée, but botanically it is quite unnecessary to notice this division. As far as its flora is concerned it falls into two districts : 1st. The surface of the plateau, slightly varied as it is by a few valleys ; and 2nd. The cliffs and rocky coasts ; botanically the whole might almost be a portion of the plateau of Guernsey.

As Sark was colonized by settlers from Jersey, and for a long period was intimately connected with that island, one might have looked for special affinities with the Jersey flora, but no such connection can be traced from an examination of the existing plants. No special Jersey plants are found in Sark ; *e.g.*, *Stellaria holostea*, *Narcissus pseudo-narcissus*, so plentiful in Jersey, do not occur in Sark, though there are many localities suitable for them ; the special plants

of Sark do not occur in Jersey (except perhaps *Scleranthus annuus*). *Trichonema columnæ*, confined to one spot in England, is as abundant in Sark as in the two larger islands ; but *Orchis laxiflora*, common in Jersey and Guernsey, does not occur in Sark. *Centaurea aspera*, *Cicendia pusilla*, *Lagurus ovatus*, *Ophioglossum lusitanicum* and *Isoetes hystrix*, which are found in Guernsey, do not occur in Sark or Jersey, but in the former there are no localities favourable to the growth of any of them except *Ophioglossum*. It seems as though Sark scarcely favoured one island more than the other. There are certain special natural features which tend to make the flora of Sark much less copious than that of Guernsey. 1st. Its small size ; 2nd. The small size of the streams, the scarcity of ponds and marshes, and the limited extent of irrigated or natural water-meadows ; 3rd. The absence of a low-lying area corresponding to that at the Vale, which precludes the occurrence of those plants which delight in sandy or rich marshy soils.

Two lists of the Flora of Sark have already been published : First, Professor Babington's, contained in his *Primitiæ Floræ Sarnicæ*. In it he enumerates 247 species as natives of Sark. The second is that contained in Professor Ansted's Channel Islands, which is Babington's list with a few additions and omissions ; it gives 266 species.

This Society, including Sark within the scope of its operations, determined to undertake the preparation of a list of Sark plants, and in order to make this list as inclusive as possible, I have spent two vacations in that island, one at Easter (April 7th to 11th), the other at Whitsuntide (May 23rd to 26th), and with the assistance of other members on the day of the Society's excursion (June 25th), we have been able to visit all parts of the island and collect specimens at varied seasons. Mr. Royle kindly undertook the examination and identification of the difficult plants, and the result of our labours, though by no means exhaustive, we consider very interesting and satisfactory.

Our list already contains 240 species, although we have done little among the rushes, sedges and grasses, and have been unable to include several plants which we have observed, but could not thoroughly identify for lack of some essential organ. If any member visiting the island would secure for us mature specimens of these we should be pleased to avail ourselves of his services and lengthen our catalogue.

I consider our list both important and gratifying, for in it we have no less than 66 species found neither in Babington nor Ansted ; there are 67 not in Professor Babington.

How is it that a quarter of our species are new to the list? Mainly for two reasons: Professor Babington visited Sark only in the summer, and most of the new plants were added as a result of the Easter excursion; many of them can only be observed in the spring, *e.g.*, *Ranunculus aquatilis*, var. *tricophyllum*, *Teesdalia nudicaulis*, *Cardamine hirsuta* and *C. pratensis*, *Sisymbrium alliaria*, *Mœnchia erecta*, *Geum urbanum*, *Arum maculatum*, &c. Some again probably flourished in Sark at the time of the Professor's visit, but he excluded them as not being indigenous, or not being at that time admitted into the British flora; but those which have since been added to the British list, and moreover occur in our own Guernsey flora, must also be added to the Sark list, such are *Allium triquetrum*, *Petasites fragrans* and *Gunnera scabra*. The first two have taken possession of large parts of Baker's Valley and the neighbourhood of the Seigneurie; the last is not yet very common. *Fœniculum vulgare*, *Vinca major*, *Borago officinalis* and *Oxalis corniculata* have apparently only recently been introduced. Of orchids we have added two to the list. *Spiranthes autumnalis* is very abundant and is on the original list, but *Orchis maculata* is new, it occurs sparingly in Baker's Valley, and *O. mascula* grows sporadically. *Anthyllis vulneraria*, only recently added to the Guernsey list, and only found in about two localities, is more abundant in Sark, occurring at the Coupée, in Dixcart Bay, &c. Of ferns, Ansted only gives three, Babington seven. I have found all those mentioned by Babington, and in addition *Lastrea filix-mas*, *L. dilatata* and *Polystichum angulare*, all of which occur in Dixcart Lane. I should like to add *Osmunda regalis* to the list. I have seen many roots being brought from the island, but I have not myself seen it growing there. *Erodium maritimum* is not in the old list; it is very abundant in the part of Little Sark around the mines; the pretty *Sibthorpia europœa* is also new, it occurs in Dixcart Valley.

All these are in the Guernsey list, we have had nothing yet distinctly characteristic of Sark; but Mr. Collins was fortunate enough last year to discover, near Little Dixcart, a few plants of a beautiful bright little starry pink, *Dianthus armeria* (the Deptford Pink), which is new to the Channel Islands. We saw about a dozen plants of it on the day of the Society's excursion at Midsummer. At Whitsuntide I found a single plant of *Lysimachia nemorum* (Yellow Loosestrife), but at Midsummer we found it in great quantities in the same neighbourhood, *i.e.*, Dixcart Valley. It has never previously been recorded for the Channel Islands.

In the corn-fields on the table-land *Scleranthus annuus* (Annual Knawel) occurs as a common weed. The name is in the lists in Babington and Professor Ansted's books as found in all the Channel Islands, but it is not included in our own flora, and so either does not now occur or must be rare in Guernsey to have escaped for these years the search of our indefatigable ex-president and his colleagues.

It will be seen then that though we have made a good commencement, there is yet much to be done before we have brought our researches in Sark to completion. Babington gives 247 species, we have added 67, but have only identified 240, so that we have 74 still to collect to produce what may be looked upon as a fairly perfect catalogue.

We hope that in any future visits, members will secure any of the desiderata they may notice, and so assist in the completion of the work.

LIST OF THE SPECIES.

NOTE :—To render this list uniform with the "Flora of Guernsey," by Mr. E. Marquand, Transactions 1891, we have adopted the nomenclature and arrangement of the eighth edition of the "London Catalogue."

Ranunculus tricophyllus, *Chaix.* Pond between Dixcart Hotel and Clos Buret.
R. hederaceus, *L.* Marshy places, frequent.
R. flammula, *L.* Same pond and Seigneurie grounds.
R. repens, *L.*
R. acris, *L.* Frequent.
R. bulbosus, *L.*
R. sardous, *Crantz.* Collinette.
R. parviflorus, *L.* Clos Buret.
R. ficaria, *L.* Common.
Fumaria pallidiflora b. Borœi, *Jordan.*
Nasturtium officinale, *R. Br.* Baker's Valley, Dos d'An.
Cardamine pratensis, *L.* Baker's Valley, Seigneurie Grounds (double var.)
C. hirsuta, *L.* Common.
Cochlearia danica, *L.* Very common.
Sisymbrium thalianum, *Hook.* Plentiful.
S. officinale, *Scop.*
S. alliaria, *Scop.* Baker's Valley.
Capsella Bursa-pastoris, *Mœnch.* Vicarage.
Senebiera didyma, *Pers.* Creux Tunnel.
Lepidium Smithii, *Hook.* Abundant.
Teesdalia nudicaulis, *R. Br.* Common on the cliffs.
Reseda luteola, *L.* In several localities.

Viola riviniana, *Reich.* Common.
V. tricolor. *L.*
V. arvensis, *Murr.* Field near Clos Buret.
Polygala vulgaris, *L.* Frequent on cliffs.
Dianthus armeria, *L.* Dixcart Valley.
Silene maritima, *With.* Common on cliffs.
S. anglica, *L.* Near Clos Buret.
Lychnis diurna, *Sibth.* Common in all hedges.
Cerastium glomeratum, *Thuill.* Common.
C. triviale, *Link.* Frequent.
Mœnchia erecta, *Sm.* Cliffs, common.
Stellaria media, *Cyr.* Abundant.
S. uliginosa, *Murr.* In various parts ; road-side to Creux.
Sagina apetala, *L.* Common.
S. procumbens, *L.* Frequent.
S. subulata, *Presl.* Cliffs in Great and Little Sark.
Lepigonum rupestre, *Kindb.* Coupée.
Spergula arvensis, *L.* Cliffs and fields, very common.
Polycarpon tetraphyllum, *L.* Fields in various parts.
Montia fontana, *L.* On cliffs, frequent.
Lavatera arborea, *L.* Cliffs.
Malva sylvestris, *L.* Near Beauregard.
Radiola millegrana, *Sm.* Cliffs, Coupée to Pilcher Mon.
Linum angustifolium, *Huds.* Furze-brakes.
Geranium striatum, *L.* Copse, Dixcart Lane.
G. molle, *L.* Frequent.
G. dissectum, *L.* Frequent.
Erodium cicutarium, *L'Herit.* Common on cliffs.
E. moschatum, *L'Herit.* Near Coupée and in Little Sark.
E. maritimum, *L'Herit.* Little Sark, mines.
Oxalis corniculata, *L.* Baker's Valley ; rare in Sark.
Acer pseudo-platanus, *L.* Copse at Port du Moulin, &c.
Ulex europeus, *L.* Everywhere.
Sarothamnus scoparius, *Link.* Frequent on cliffs.
Ononis arvensis, *L.* Coupée.
Trifolium subterraneum, *L.* Abundant on cliffs.
T. pratense, *L.*
T. arvense, *L.* Cliffs.
T. striatum, *L.* Cliffs.
T. glomeratum, *L.* Cliffs.
T. suffocatum, *L.* Port du Moulin.
T. repens, *L.*
T. procumbens, *L.*
T. minus, *Sm.*
Anthyllis vulneraria, *L.* Dixcart Bay, Coupée.
Lotus corniculatus, *L.* Common.
c. **villosus**, *Coss & Germ.* Characteristic Sark plant.
L. pilosus, *Beeke.* Creux roadside.

Lotus hispidus, *Desf.*
Ornithopus purpusillus, *L.* Abundant on the cliffs.
Vicia hirsuta, *Koch.*
V. tetrasperma, *Mœnch.*
V. cracca, *L.*
V. sativa, *L.*
Prunus communis, *Huds.* Common on cliffs and in hedges.
Rubus rusticanus, *Merc.*
Geum urbanum, *L.* Dixcart; rare in Sark.
Potentilla Fragariastrum, *Ehr.* Not common.
P. Tormentilla, *Neck.*
P. reptans, *L.*
Alchemilla arvensis, *Lam.* Common on the cliffs, &c.
Rosa spinosissima, *L.* Cliffs overlooking harbour, &c.
R. micrantha, *Sm.* Dixcart Valley, &c.
R. canina, *v.* **dumalis**, *Bechs.* Coupée.
Pyrus communis, *L.* One tree in hedge in Baker's Valley; on cliffs.
Cratœgus oxyacantha, *L.* Common.
Tillœa muscosa, *L.* Port du Moulin.
Cotyledon umbilicus, *L.* Common on walls and banks.
Sedum anglicum, *Huds.* Common.
Callitriche vernalis, *Koch.* In ponds, Dixcart, Clos Buret, &c.
Peplis Portula, *L.* Ponds, Dixcart.
Epilobium tetragonum, *L.* Creux roadside.
Hydrocotyle vulgaris, *L.* Marsh near Clos Buret.
Smyrnium olusatrum, *L.* Common.
Apium nodiflorum, *Reich.* Frequent in streams.
Fœniculum officinale, *All.* Dixcart Valley and south coast.
Crithmum maritimum, *L.* Common on cliffs.
Œnanthe crocata, *L.* Frequent in streams.
Heracleum sphondylium, *L.* Abundant in cultivated fields.
Daucus carota, *L.* Frequent.
Caucalis anthriscus, *Huds.* Near Coupée.
Hedera helix, *L.* Very common.
Gunnera scabra. Baker's Valley, Seigneurie.
Sambucus nigra, *L.* In several parts; Beauregard, &c.
Lonicera periclymenum, *L.* Frequent in hedges.
Galium verum, *L.*
G. mollugo, *L.* Abundant.
G. aparine, *L.* Abundant.
Sherardia arvensis, *L.* Common on cliffs.
Valerianella carinata, *Lois.* Road from the mill to Vicarage, &c. Frequent.
Eupatorium cannabinum. Streams generally.
Bellis perennis, *L.* Very abundant.
Filago germanica, *L.* On cliffs.
F. minima, *Fr.* Cliffs, Dixcart Bay.
Gnaphalium uliginosum, *L.* Fairly common.

Pulicaria dysenterica, *Gœrt.*
Achillea millefolium, *L.* Frequent.
Chrysanthemum segetum, *L.* Very common. Characteristic Sark plant
C. leucanthemum, *L.* Common.
Matricaria chamomilla, *L.* Frequent.
Tanacetum vulgare, *L.* Little Sark. Rare.
Artemisia absinthium, *L.* Creux Tunnel.
Petasites fragrans, *Presl.* Dixcart Valley, spreading.
Senecio vulgaris, *L.* Very common.
S. sylvaticus, *L.* Frequent on the cliffs.
S. jacobœa, *L.* Common.
Carlina vulgaris, *L.*
Arctium lappa, *L.* Dixcart Valley, &c.
Carduus arvensis, *Curt.* Corner of field near Collenette.
Centaurea nigra, *L.* Frequent on banks.
Lapsana communis, *L.* Frequent.
Crepis virens, *L.* Field near Collenette.
Hieracium Pilosella, *L.* Cliffs in many parts.
Hypochœris radicata, *L.*
Leontodon hirtus, *L.* In various parts.
Taraxacum officinale, *Web.* Common.
Sonchus oleraceus, *L.* Common weed.
S. asper, *Hoffm.* Common.
S. arvensis, *L.* Common.
Jasione montana, *L.* Frequent.
Erica cinerea, *L.* Abundant.
Ilex aquilifolium, *L.* Copse above Port du Moulin.
Statice auriculœfolia, a. occidentalis, *Lloyd.* Cliffs: Venus's Bath, Port Gorey.
Armeria maritima, *Willd.* Cliffs in all parts.
Primula vulgaris, *Huds.* Very common and large.
Lysimachia nemorum, *L.* Dixcart Valley.
Anagallis arvensis, *L.* Common in cultivated ground.
Ligustrum vulgare, *L.* Frequent; road-side to Bel Air.
Fraxinus excelsior, *L.*
Vinca major, *L.* Eperquerie. Saignie cliffs.
Erythræa centaurium, *Pers.* Frequent.
Borago officinalis, *L.* Vicarage.
Myosotis repens, *Don.* Stream in Dixcart Valley.
M. collina, *Hoffm.* Frequent on cliffs.
M. versicolor, *Reich.* Fields near Beauregard.
Convolvulus arvensis, *L.* Common.
Solanum dulcamara, *L.* In various parts.
Linaria elatine, *Mill.* Abundant.
L. vulgaris, *Mill.* Beauregard.
Antirrhinum orontium, *L.* Frequent in cultivated fields.
Scrophularia aquatica, *L.* In various parts.
Sibthorpia europœa, *L.* Dixcart Valley.

Digitalis purpurœa, *L.* Common in furze-brakes.
Veronica agrestis, *L.* Common.
V. arvensis, *L.* Common.
V. serpyllifolia, *L.* Common in cultivated fields.
V. officinalis, *L.*
V. chamœdrys, *L.* Frequent in Great and Little Sark.
Euphrasia officinalis, *L.* Common on the cliffs.
Pedicularis sylvatica, *L.* Common in wet places on cliffs.
Orobanche Hederœ, *Duby.* Creux Terrible.
O. minor, *Sm.* Fields above Little Dixcart.
Mentha aquatica, *L.* Road-side from harbour to Bel Air Hotel.
Thymus serpyllum, *Fr.* Common on cliffs.
Nepeta glechoma, *Benth.* Fairly frequent. Dixcart Valley, Little Sark.
Prunella vulgaris, *L.* Frequent. La Collenette.
Stachys palustris, *L.*
S. arvensis, *L.* Common in corn-fields.
Lamium purpureum, *L.* Common in fields.
Teucrium Scorodonia, *L.* Common.
Plantago major, *L.* Frequent in fields.
P. lanceolata, *L.* Common.
P. maritima, *L.* Frequent on the coast.
P. coronopus, *L.* On cliffs.
Scleranthus annuus, *L.* Fields, Clos Buret.
Chenopodium album, *L.* Frequent.
Beta maritima, *L.* Frequent.
Polygonum convolvulus, *L.* Field near Clos Buret.
P. aviculare, *L.* Road-sides, frequent.
P. persicaria, *L.* In several localities.
Rumex pulcher, *L.* Common.
R. crispus, *L.* Frequent.
R. acetosa, *L.* Fields.
R. acetosella, *L.* Hog's Back and cliffs generally.
Euphorbia helioscopia, *L.* Frequent in cultivated fields.
E. portlandica, *L.* Frequent on cliffs.
E. peplus, *L.* Common.
Mercurialis annua, *L.*
Humulus Lupulus, *L.* Grève de la Ville.
Urtica dioica, *L.* Common.
Quercus robur, *L.* Copse at Port du Moulin, &c.
Spiranthes autumnalis, *Reich.* Common on the cliffs.
Orchis mascula, *L.* Saignie Bay, Dixcart, &c.
O. maculata, *L.* A few plants only near Dixcart.
Iris fœtidissima, *L.* Common.
I. pseudacorus, *L.* Common in streams.
Trichonema columnæ, *Seb.* Common on cliffs and in furze-brakes.
Allium triquetrum, *L.* Baker's Valley and Bel Air to Creux.
Scilla autumnalis, *L.* On cliffs and in furze-brakes.
S. nutans, *Sm.* Very common.

Juncus bufonius, *L.* Frequent.
J. effusus, *L.* Pond near Clos Buret.
J. lampocarpus, *Ehr.* Pond near Clos Buret.
J. capitatus, *Weigel.* Cliffs.
Luzula campestris, *D.C.* Abundant.
Arum maculatum, *L.* Cliff, Creux to Dixcart, &c., &c.
Lemna minor, *L.* Pond near Clos Buret.
Scirpus pauciflorus, *Lightf.* Pond near Clos Buret.
Carex muricata, *L.* Avenue.
C. ovalis, *Good.* Pond near Clos Buret.
Alopecurus pratensis, *L.*
Aira caryophyllea, *L.* Common.
Arrhenatherum avenaceum, *Beauv.* Common.
Phragnites communnis, *Trin.* Grêve de la Ville.
Cynosurus cristatus, *L.* Common.
Dactylis glomerata, *L.* Common.
Hordeum murinum, *L.* Common.
Pteris aquilina, *L.* Very common.
Asplenium lanceolatum, *Huds.* A few places both in Great and Little Sark.
A. adiantum-nigrum, *L.* Dixcart, &c.
A. marinum, *L.* Caves both in Great and Little Sark.
Athyrium Filix-fœmina, *Roth.* Fairly common.
Scolopendrium vulgare, *Sym.* Common.
Polystichum angulare, *Presl.* Rare. Dixcart.
Lastrœa Filix-mas, *Presl.* Fairly common.
L. dilatata, *Presl.* Dixcart, Port du Moulin, &c.
Polypodium vulgare, *L.* On walls both in Great and Little Sark.
Equisetum palustre, *L.* Fairly common.

ADDITIONAL SPECIES.—JUNE, 1897.

Papaver dubium, *L.* Common; not in Babington.
P. rheas, *L.* Little Sark; not in Babington.
Fumaria confusa, *Jord.* Not in Babington.
F. muralis, *Sonder.* Not in Babington.
Lychnis alba, *Mill.* Not in Babington. Little Sark.
Hypericum humifusum, *L.* Frequent.
Trigonella purpurascens, *Lam.* On cliffs.
Lotus angustissimus, *L.* Furze brakes.
Conium maculatum, *L.* Little Sark Village, and in Great Sark.
Galium saxatile, *L.* Not in Babington; Little Sark.
Anthemis arvensis, *L.* Great and Little Sark.
Matricaria inodora, *L.* Not in Babington; field south of Dixcart.
Anagallis tenella, *L.* Eperquerie Common.
Lycopsis arvensis, *L.* Little Sark.
Bartsia viscosa, *L.* Field south of Dixcart.
Orobanche amethystea, *Thuill.* Not in Babington; Creux Harbour.
Lamium amplexicaule, *L.* Not in Babington; field south of Dixcart.

Urtica urens, *L.* Little Sark.
Ruscus aculeatus, *L.* Not in Babington ; Dixcart Bay.
Anthoxanthum odoratum, *L.* Frequent.
Holcus lanatus, *L.* Frequent.
Poa annua, *L.* Very common.
P. pratensis, *L.* Common.
P. trivialis, *L.* Frequent.
Festuca uniglumis, *L.* Rather common ; Creux Harbour, &c.
Festucus loliacea, *Huds.* Frequent.
Bromus sterilis, *L.* Frequent.
Trifolium scabrum, *L.* Rare. Port du Moulin.

ADDITIONAL LAND AND FRESH WATER SHELLS.

BY MR. E. D. MARQUAND, EX-PRESIDENT.

In the Transactions of this Society for the year 1894 may be seen a list of the Land and Fresh Water Shells of Guernsey, comprising all forms of which, up to date of publication, I had myself seen specimens. Through the kindness of my friend, Mr. Brockton Tomlin, B.A., who for many years past has given special attention to the conchology of the Channel Islands, I am now able to present to the Society an important supplementary list, which will complete the record of species so far as at present known.

Except where otherwise indicated all the species and varieties now enumerated have been collected in Guernsey by Mr. Tomlin during his visits to the island from time to time, some new forms having been added during a few weeks' stay last summer.

It will be seen that a fine list of slugs has been made out, though probably not an exhaustive one ; it is almost certain that other varieties yet remain to be discovered, especially at the western extremity of the island, a district which has been very imperfectly worked conchologically.

The best thanks of the Society are due to Mr. Tomlin for communicating the result of his researches in this interesting branch of the Sarnian fauna.

Testacella scutulum, *Sow.* Gardens at St. Peter-Port. Specimens determined by Mr. J. W. Taylor.

Limax maximus, *L.* Common, especially at St. Sampson's and St. Martin's.

Var. **cellarius,** *D'Arg.* Common at St. Sampson's and probably elsewhere.

Var. **mülleri,** *Moq.* Rare at St. Sampson's.

Limax variegatus, *Drap.* (L. flavus, *Auct.*) Not very common.

Agriolimax agrestis, *L.* Ubiquitous.

Ag. lævis, *Mull.* In damp ground.

Amalia gagates, *Drap.* Common, especially in gardens.

Var. **rava,** *Wms.* Equally common.

Var. **plumbea,** *Moq.* Occasional.

Am. marginata, *Drap.* Very common.

Hyalinia Draparnaldi, var. **albinos,** *Moq.* One specimen, Grande Mare.

Hy. alliaria, var. **viridula,** *Jeff.* With type, occasional.

Arion ater, *L.* Ubiquitous.

Var. **marginatus,** *Moq.* St. Sampson's.

Var. **Lamarckii,** *Kal.* Saints' Bay.

Ar. hortensis, *Fér.* Ubiquitous.

Ar. subfuscus, *Drap.* St. Sampson's.

Ar. circumscriptus, *Johnson.* St. Sampson's.

Helix rotundata, var. **minor,** *Jeff.* Guernsey (Jeffreys).

Var. **pyramidalis,** *Jeff.* Moulin Huet.

Hel. rupestris, *Drap.* Grand Havre, many years ago, and again last summer.

Hel. aspersa, var. **virescens,** *Moq.* Bordeaux Harbour (locality now destroyed).

Hel. nemoralis, var. **carnea,** *R. & T.* (*Roseo-zonata* of previous list). Vazon, one specimen.

Var. **olivacea,** *Gass.* 00000, rare, Moulin Huet.

Var. **petiveria,** *Moq.* 12345, 00300, scarce.

Hel. hispida, var. **subglobosa,** *Jeff.* Fermain (Cooke and Gwatkin).

Hel. virgata, var. **subalbida,** *Poiret.* Common.

Var. **rufula,** *Moq.* Common.

Var. **hypozona,** *Moq.* Scarce.

Var. **bifasciata,** *Bouch.* Cobo.

Var. **pellucens,** *Sh.* Near Doyle's Column. Analogous to var. *tenuior* of *H. aspersa.*

Hel. caperata, var. **ornata,** *Pic.* Scarce.

Hel. acuta, var. **nigrescens,** *Taylor.* With type, scarce.

Var. **inflata,** *Moq.* Guernsey (J. E. Cooper).

Bulimus obscurus, *Mull.* Walls of Clarence Battery, two specimens in 1886.

Clausilia rugosa, var. **Everetti,** *Miller.* Occasional.

Cochlicopa lubrica, var. **fusca,** *Moq.* Occasional.

Achatina acicula, *Müll.* Guernsey (Jeffreys).

Succinea putris, var. **virescens,** *Mor.* Guernsey. Identified by Mr. J. W. Taylor among some shells sent him by Mr. Tomlin several years ago, but the exact locality was unfortunately not noted.

Planorbis lineatus, *Walker.* Guernsey (Lukis).

Pl. nautileus, var. **cristata,** *L.* With the type at Ivy Castle and Vale Road.

Limnæa peregra, var. **solemia,** *Zgl.* Cobo.—A distinct and very much swollen form.

Var. **intermedia,** *Fer.* Cobo.

Lim. palustris, m. **decollatum,** *Jeff.* Guernsey (Lukis).

Lim. glabra, *Müll.* Marshes at Ivy Castle in 1877 (Cooke and Gwatkin). Mr. Tomlin says he "searched the locality in 1884 with Mr. Gwatkin, and also on subsequent occasions, but has found no trace of it." (?) Extinct.

Ancylus lacustris, *L.* Ivy Castle marshes (Cooke and Gwatkin).

THE ORTHOPTERA OF GUERNSEY.

BY MR. W. A. LUFF.

THE order *Orthoptera* consists for the most part of large sized insects, some of them, in tropical countries, being the largest of all insects. Their wings, when at rest, are folded longitudinally upon the body, and present a straight outline; for this reason they have received the name of *Orthoptera*, which literally means "straight-winged." They have four wings, the upper pair being of a leathery nature, provided with numerous long nervures. The hind wings are membranaceous and have numerous long nervures and short cross nervures, so that they fold up something like a fan, and are completely covered and protected by the upper pair. The jaws are formed for biting, and are similar to those of the *Coleoptera*. A very important characteristic which separates them from the *Lepidoptera*, *Coleoptera*, *Diptera* and other orders is that they undergo what is called an incomplete metamorphosis. Their young, in the early stages of their existence, resemble the parents in form, the wings being the only part absent; these do not become fully developed until the insect reaches maturity.

The *Orthoptera* are very numerous in species, the number in the whole world being stated as over 10,000. Of these, however, only about 40 have been taken in the British Islands. In Guernsey I have found only 14 species.

The order has been divided into three tribes, viz.:—The *Euplexoptera*, the *Cursoria*, and the *Saltatoria*.

The *Euplexoptera*, or Ear-wigs, were until recently classed in a separate order. In Guernsey I have only found one species, *Forficula auricularia*, which is well known and abundant everywhere. The name of "earwig" has been given to the insect from the idea that it has the habit of penetrating into the ears of persons when asleep, but I have never heard of a case where they have actually done so.

The female earwig, unlike the majority of insects, broods over her eggs, and, when hatched, shows a fondness for her young, carefully protecting them from their enemies.

A variety of the common earwig, larger in size, having enormous pincers in the male, named *Forcipata*, is common near the shore on the island of Lihou and on the little islet of Chapelle Dom Hue, on the west coast of the island. In Stephens' "Illustrations of British Entomology" it is figured as a distinct species.

The *Cursoria* have their hind legs but little different from the others, and are formed for running. They are represented here only by the *Blattidæ*, or Cockroaches. The *Mantidæ* and *Phasmidæ* (the Leaf and Walking Stick Insects) are not found in Northern Europe.

The *Blattidæ* are familiarly known as Blackbeetles, and are very abundant in some houses in town. They are remarkable for the excessive rapidity with which they run. The habits of most of the species being nocturnal, they conceal themselves by day and only appear at night. The common black species, *Periplaneta orientalis*, which have become so abundant as to be a pest, were originally natives of Asia, and have been conveyed by shipping to our more temperate clime, where they usually select the sides of fireplaces and backs of ovens as their breeding places. Several specimens of a larger species, *Periplaneta Americana*, have been captured here, but they are known to have been brought ashore from a foreign going vessel in our harbour, and I have no record of their having established themselves anywhere on the island. They have spread widely in England, and are found in great numbers in limited localities, one of the best known of which is the Zoological Gardens of Regent's Park, in London.

Our native species are small and lighter coloured, one of them, *Phyllodromia Germanica*, being extremely rare in England, but abundant in Northern and Eastern Europe.

The *Saltatoria* have their hind legs formed for leaping, as the Grasshoppers, Locusts and Crickets. Most of the species are able to produce a loud chirping noise. This is accomplished by rubbing together the outer edge of the upper wing and the inner face of the hind femur or thigh. These upper wings have projecting veins, one of which has a sharp edge; by scraping this edge over some small bead-like prominences on the femur, the wing is thrown into a state of vibration and a musical sound is produced. The tribe is divided into three families: First, the *Achetidæ*, or Crickets, which are represented in Guernsey by the House Cricket and Mole Cricket. The House Cricket, *Gryllus domesticus*, is well known by its musical powers. They are particularly fond of warm kitchens and bakers' ovens, on account of the

constant warmth. The Mole Cricket, *Gryllotalpa vulgaris*, is an extremely curious looking insect. It leads an underground existence; its front legs are remarkable structures, being much dilated and admirably adapted for burrowing through the earth. Its habits have been described by Gilbert White in his celebrated "Natural History of Selborne." He tells us that "a gardener at a house where I was on a visit happening to be mowing on the 6th of that month (May) by the side of a canal, his scythe struck too deep, pared off a large piece of turf, and laid open to view a curious scene of domestic economy. There were many caverns and winding passages leading to a kind of chamber, neatly smoothed and rounded, and about the size of a moderate snuff-box. Within the secret nursery were deposited near a hundred eggs of a dirty yellow colour, and enveloped in a tough skin, but too lately excluded to contain any rudiments of young, being full of a viscid substance. The eggs lay but shallow and within the influence of the sun, just under a little heap of fresh moved mould, like that which is raised by ants." This insect is rather common in Guernsey, and usually haunts moist meadows and the sides of streams. It is sometimes stated that it causes great injury to the farmer by destroying young plants. I had several specimens brought to me last year, the party who brought them stating that they had destroyed a number of plants in his greenhouse. On enquiry I found that the greenhouse had been recently built in a meadow, right over a stream.

The *Gryllidæ*, or false Locusts, are represented in Guernsey by *Pasgonura viridissima*, or the great Green Grasshopper, a large species measuring nearly four inches across the wings when expanded; and *Platycleis grisea*, a much smaller species, which is found only on the cliffs of the southern coast. It is local in England, preferring chalky maritime districts.

The *Locustidæ* includes the common Grasshoppers and true Locusts. They are easily separated from the two preceding families by their comparatively short antennæ. Most of the grasshoppers so common in our fields and on our cliffs belong to the very variable species *Stenobothrus bicolor*. They differ greatly in size and are of all shades of colour: green, red, brown, and even black. The true locusts belong to this family, and a specimen of that magnificent species, *Locusta peregrina*, was captured alive in Mill Street in the autumn of 1881, and was the first Natural History specimen exhibited to this Society. Specimens occurred in various parts of Eng-

land in 1869, but it has not been recorded since. It is the chief species in Northern Africa, and is probably the locust of the plagues of Egypt mentioned in the book of Exodus.

Œdipoda cærulescens is not uncommon in several limited localities on our cliffs. It is a beautiful species, the under wings being bright blue bordered with black. It is fond of rocky ground, and when at rest with its wings folded out of sight, it is very difficult to detect from its surroundings, its body and upper wings being coloured so much like them. It is rather doubtful whether it has ever been taken in Great Britain, although amongst the reputed British species. With reference to the family of *Œdipodites*, Dr. Sharp says : "Some striking cases of variation of colour occur amongst them. In certain species the hind wings may be either blue or rosaceous in colour ; it is thought that the latter is the tint natural in the species, and that it is due to the mixture of a red pigment with the pale blue colour of the wing, hence the blue coloured wings are analagous to cases of albinism. But the most remarkable fact is that this colour difference is correlative with locality. Brunner von Wattenwyl says that the blue variety of *Œdipoda variabilis* occurs only in a few localities in Europe ; he mentions Vienna and Sarepta, and that where it occurs not a single red example is to be met with. Similar phenomena occur in other species in both Europe and North America, and L. Brunner has suggested that the phenomena in the latter country are correlative with climatic conditions."

The curious little Grasshopper, *Tetix subulata*, is the smallest British species. It is found not uncommonly in various parts of the island.

In conclusion, I have great pleasure in acknowledging the kind assistance rendered by Mr. E. Saunders, F.E.S., and the Rev. E. N. Bloomfield, F.E.S., in the determination of species.

ORTHOPTERA.

TRIBE 1.—EUPLEXOPTERA.

Forficula auricularia, *L.* This is the common ear-wig, which is abundant everywhere in fields and gardens.

F. auricularia, var. *forcipata, Steph.* Common on Lihou Island and the Island of Chapelle Dom Hue, on the west coast of Guernsey.

TRIBE 2.—CURSORIA.

BLATTIDÆ.

Ectobia Panzeri, *Steph.* Not uncommon near the coast. Common in Alderney.

Ectobia livida, *Fab.* Common under stones on the cliffs in June and July. Also in Alderney.

Phyllodromia germanica, *L.* Two specimens, one in a shop in the Arcade, one at St. Sampson's.

Periplaneta orientalis, *L.* This is the common cockroach, very abundant in some houses.

P. americana, *L.* Several specimens captured on the quay, where they had been brought with goods landed from a foreign vessel in our harbour.

TRIBE 3.—SALTATORIA.

ACHETIDÆ.

Acheta domestica, *L.* Common in many houses in the island.

Gryllotalpa vulgaris, *Latr.* Not uncommon in damp meadows.

GRYLLIDÆ.

Phasgonura viridissima, *L.* Common.

Platycleis grisea, *Fab.* In various localities on the cliffs.

ACRIDIIDÆ.

Stenobothrus bicolor, *Charp.* Abundant everywhere, very variable in size and colour.

Locusta peregrina, *Oliv.* One fine specimen captured alive in Mill Street in the autumn of 1881.

Œdipoda cœrulescens, *L.* Not uncommon on our cliffs in various localities from Petit Port to Torteval. I have also taken it in Jersey.

Tettix subulatus, *L.* Common at Saints' Bay. Several at Grande Mare, Vazon.

THE TENTHREDINIDÆ, OR SAW-FLIES OF GUERNSEY.

BY MR. W. A. LUFF.

The *Tenthredinidæ*, or saw-flies, are an important family of insects, many of them in their larval state being very destructive to vegetables and fruit.

They belong to the Order *Hymenoptera*, which also includes the Wasps, Bees, Ants and Ichneumon Flies.

The *Tenthredinidæ* are distinguished from the other families of the Order by being provided with an ovipositor formed like a saw. Each female possesses a pair of these saws, with which she makes incisions or slits in the stems and leaves of plants, and into these the eggs are dropped. The two saw-blades are placed side by side and so skilfully articulated that they freely move up and down a grooved piece that serves to keep the instrument sufficiently supported. The saws have different forms in different species, and it is astonishing that parts of a living creature should become tools so mechanically perfect as these saws are.

The larvæ of Saw-flies are very various in their habits; many of them closely resemble those of the *Lepidoptera* and feed exposed on the leaves of plants in the same way as Lepidopterous larvæ do.

The larvæ of some species, such as the one known to gardeners, as the pear tree Slug, or Slug Worm (*Enocampa limacina*) is covered with a viscid, slimy substance, which gives it very much the appearance of a small black slug; others, again, live in galls on the leaves and stems of plants, resulting from the wounds made by the parent fly in depositing her eggs.

Familiar examples of the larvæ that resemble those of the *Lepidoptera* are the Gooseberry and Currant Grubs which are so destructive in our gardens, often completely stripping the bushes of their leaves.

The largest species of Saw-fly that I have met with is *Trichiosoma lucorum*. The perfect fly is a large, brown, hairy,

bee-like insect. The larva, in addition to its general resemblance to that of the *Lepidoptera*, forms a hard, brown, oval cocoon. These cocoons being attached to the twigs of whitethorn, are conspicuous in the winter months when the leaves have fallen from the bushes, and are sometimes mistaken for those of the Egger Moth.

The galls formed on the leaves of the willow by *Nematis gallicola* are of a red colour and are very pretty objects, many leaves having a double row of them placed in regular order. They have been extremely abundant this season, Mr. Hocart having brought me large branches, every leaf of which was completely covered with these galls.

One of the most interesting of our saw-flies is *Abia nigricornis*, its body being of a rich metallic silken hue. I have taken several specimens here although it is somewhat rare in England.

The *Cephidæ*, or Stem Saw-flies, and the *Siricidæ*, or Tailed Wasps, are closely allied to the *Tenthredinidæ*. I have, therefore, included them in the following list. The *Cephidæ* are represented on our list by an injurious species, *Cephus pygmæus*, which is very destructive to corn crops in Europe. The larvæ feed within the stem of the corn, thus weakening it, so that when ripe, under the influence of a strong wind, it breaks in two and causes the ear to fall to the ground.

The *Siricidæ* are, like the *Tenthredinidæ*, also vegetable feeders. They are not a very extensive family in England, and I know of only two species that have occurred in Guernsey. The females are provided with a long ovipositor projecting from the extremity of the body, and looking very much like a strong sting. This ovipositor is a remarkable structure. With it the insect is able to bore into the solid wood of trees to a considerable depth and there deposit her eggs. When these develop the larvæ feed upon the wood, making long burrows in the trunk in the course of the two years they pass in the larval state.

I have taken two specimens of *Sirex gigas* in Guernsey; it is a formidable looking insect, although quite harmless. It is somewhat rare in England, but abundant on the Continent, especially in the neighbourhood of fir forests.

Sirex juvencus is a smaller insect of a dark steel-blue colour.

Although the following list of species is the result of considerable research, I consider it far from complete. I have specimens of several obscure species still unnamed, and I have no doubt many more will be found.

I have to express my deep obligation to the Rev. E. N. Bloomfield, F.E.S., for his great kindness in naming the numerous specimens submitted to him.

HYMENOPTERA SESSILIVENTRIS.

TENTHREDINIDÆ.

TENTHREDINA:

Tenthredo picta, *Klug.* Not uncommon.
T. gibbosa, *Fln.* Several specimens, April 5th, 1896, near Fort Bay.
Tenthredopsis nigricollis, *Cam.* Two specimens near Moulin Huet Bay.
Pachyprotasis rapæ, *L.* Several, St. Andrew's and Vale.
Allantus scrophulariæ, *L.* Common near Saints' Bay.
Dolerus fulviventris, *Scop.* Not uncommon.
D. fiesus, *Htg.* Two, cliffs near Gouffre, June.
Selandria serva, *F.* Not uncommon.
S. stramineipes, *Klug.* Common.
Taxonus equiseti, *Fln.* One specimen captured in the Talbot Valley, June.
T. glabratus, *Fln.* Several near Vazon, May 10th.
Erriocampa annulipes, *Klug.* Several by sweeping near Petit Bôt Bay, May 19th.
E. limacina, *Retz.* The slug-like larvæ too common on pear trees.
Blennocampa fuscipennis, *Fln.* Not uncommon, May and June.
B. ephippium, *Pz.* Two.
B. fuliginosa, *Schr.* One, June 12th. Several by sweeping, May 15th.
Emphytus grossulariæ, *Klug.* In garden at Mount Row.
Athalia rosæ, *L.* Common.

NEMATINA.

Nematus lucidus, *Pz,* One, Mount Row.
N. ribesii, *Scop.* Larvæ common on gooseberry bushes in gardens
N. gallicola, *Steph.* Common.

CIMBICINA.

Trichiosoma lucorum, *L.* Not common.
Abia nigricornis, *Leach.* Several specimens taken near Jerbourg.

CEPHIDÆ.

Cephus pygmæus, *L.* One.

SIRICIDÆ.

Sirex gigas, *Linn.* Not common. I have taken several specimens, but not of late years.
Sirex juvencus. One specimen, 1872.

SUNSHINE DURING THE YEAR 1896.

BY MR. A. COLLENETTE, F.C.S.

THROUGH the kindness of Dr. Francis Carey I am able to give the results of two recorders this year. My own records are taken with a twin Jordan instrument, Dr. Carey's with the single pattern Jordan recorder.

TABLE I.

Month.	AT VILLA CAREY.	AT HAUTEVILLE.				
		Hours.	Sunless Days.	Percentage of Possible Sunshine.	Average of Three Years.	
					Above.	Below.
	Hours.				Hours.	Hours.
January	48·05	34·91	16	13	—	21·44
February	118·05	98·92	7	34	—	1·11
March	121·15	110·10	7	30	—	45·40
April	175·10	171·41	2	41	—	3·24
May	313·50	307·02	0	65	47·38	—
June	294·35	301·86	0	64	4·86	—
July	281·20	277·73	0	57	34·41	—
August	257·25	234·20	1	53	30·88	—
September	119·50	107·28	3	28	—	69·70
October	99·10	85·18	5	25	—	9·30
November	79·30	68·96	8	25	3·28	—
December	30·00	38·12	12	15	3·35	—
The Year ..	1936·55	1835·69	61	37		

The two totals given above give a mean of 1886·12 hours. Jersey's sunshine is given as 1879·00 hours. It is evident that the exact sunshine recorded varies with the recorder used (Jersey uses a Campbell-Stokes glass ball) or differs from personal equation in the reading. At present the figures do not favour either island.

The long interval that occurred between the 3rd of April and the 18th of August, 146 days, without a sunless day, was, long as it was, largely exceeded in 1895, when no sunless day was registered between April 2nd and October 6th, 186 days.

The sunniest days in each of the three last years were :—

1894.....13th June.....14·43 hours.
1895..... 3rd July.....14·75 hours.
1896.....13th July.....14·46 hours.

The average of three years gives the order of the months as regards sunshine, as follows :—

TABLE II.

No.	Three Years' Average.		1896.	
	Months.	Hours.	Months.	Hours.
1	June	297	May	307
2	May	259	June	301
3	July	243	July	277
4	August	193	August	204
5	September	177	April	171
6	April	174	September	107
7	March	155	March	110
8	February	100	February	98
9	October	94	October	85
10	November	65	November	69
11	January	56	December	38
12	December	35	January	35

1896 is compared with the three years' average, and by the comparison it will be seen that three sets of months have changed places, viz. :—May-June, April-September, January-December. A few more years will be needed to fix the order permanently.

THE RAINFALL OF GUERNSEY FOR 1896.

BY MR. A. COLLENETTE, F.C.S.

I am able, this year, to compare the rainfall from four different stations. These are my own, and

2. Claire Mare, kindly supplied by Mr. J. J. Carey.
3. Cobo (Rectory), „ „ Mr. E. B. R. de Jersey.
4. Les Blanches, „ „ Mr. B. Rowswell.

It will be seen that these stations divide themselves into two sets, viz., two stations on the east coast and two on the west coast.

The east coast stations are above the sea level 190 feet, Hauteville, and 300 feet, Les Blanches. The west coast stations are below 100 feet elevation. Notwithstanding this the falls have been heavier on the east coast than on the west, teaching that the rainfall is increased in quantity by the passage of the rain-bearing clouds over the island.

The east coast stations agree (taking their difference in elevation into consideration) remarkably well, but those of the west coast show no agreement with each other nor with east coast stations.

TABLE I.

Monthly Totals at Hauteville, St. Peter-Port; Claire Mare, St. Peter's; Cobo, Castel, and Les Blanches, St. Martin's.

Months.	Hauteville.	Claire Mare.	Cobo.	Les Blanches.	54 Year Average.
	Inches.	Inches.	Inches.	Inches.	Inches.
January	1·27	0·99	1·23	1·23	3·88
February	0·43	0·28	0·51	0·51	2·56
March	3·20	2·99	3·35	3·30	2·46
April	0·80	0·50	0·84	0·95	2·26
May	0·17	0·22	0·17	0·25	2·15
June	2·02	2·07	1·69	1·70	2·02
July	1·08	0·99	1·17	1·08	2·32
August	2·15	2·17	2·23	2·19	2·38
September	7·45	5·77	5·99	6·70	3·18
October	7·50	5·53	6·52	7·65	5·04
November	2·10	1·84	1·90	2·04	4·52
December	4·80	4·51	4·72	4·76	4·09
Totals	32·97	27·86	30·32	32·36	36·98

The above table gives the monthly and annual totals and the 54 year average, for comparison. There are a few items of detail to which attention may be drawn.

The agreement of Hauteville and Les Blanches stations is most satisfactory, and proves that the west coast stations are working well together. The station at Claire Mare is on the low ground immediately before the elevated portion of the island, and as our chief rainfall comes from the south-west, the deficiency this station shows is evidently due to the effect of the rise of the land. Cobo being further from high land is less influenced by it and hence stands between the two extremes.

TABLE II.

MEAN RAINFALL OF GUERNSEY FOR 1896

As shown by averaging the four Stations.

	Amount.	Wet Days.
January	1·18	15
February	0·43	8
March	3·21	24
April	0·77	11
May	0·20	3
June	1·87	12
July	1·08	7
August	2·18	13
September	6·48	26
October	6·80	27
November	1·97	14
December	4·69	28
The year	30·88	190

Both tables given above show that the rainfall fell below the average, consequently the year is registered as a dry year. The mean of the four stations give a lower reading than Hauteville, and we shall probably find, if the comparisons can be kept up that the rainfall of the island as a whole is less than that of the town.

TABLE III.

Differences at each Station from the 54 year averages.

Figures in inches.

Months.	Hauteville.		Claire Mare.		Cobo.		Les Blanches.		Mean Results of 4 Stations.	
	Above.	Below.	Above.	Below.	Above.	Below.	Above.	Below.	Above.	Below.
January.....	—	2·61	—	2·89	—	2·65	—	2·65	—	2·70
February	—	2·13	—	2·28	—	2·05	—	2·05	—	2·13
March	0·74	—	0·53	—	0·89	—	0·84	—	0·75	—
April	—	1·46	—	1·76	—	1·42	—	1·31	—	1·48
May	—	1·98	—	1·87	—	1·88	—	1·90	—	1·88
June	—	—	0·05	—	—	0·33	—	0·32	—	0·17
July	—	1·24	—	1·33	—	1·15	—	1·24	—	1·24
August	—	0·23	—	0·21	—	0·15	—	0·19	—	0·19
September ..	4·27	—	2·59	—	2·81	—	3·52	—	3·05	—
October	2·46	—	0·49	—	1·48	—	2·61	—	2·26	—
November	—	2·42	—	2·68	—	2·62	—	2·48	—	2·55
December	0·71	—	0·42	—	0·63	—	0·67	—	0·61	—
Totals ..	8·18	12·07	4·08	13·02	5·81	12·25	7·54	12·14	6·67	12·34
Wet Months..	4		5		4		4		4	
Dry Months ..		8		7		8		8		8

The peculiarity of the year has been the heavy falls of September and October. September especially was abnormally wet. These months with March and December were the only wet months.

January, February, May and November were exceptionally dry.

TABLE IV.

Number of Wet Days at each station with averages of 54 years.

Months.	Hauteville.	Claire Mare.	Cobo.	Les Blanches.	54 Year Average.
January	14	16	16	16	19
February	7	4	10	10	15
March	26	24	21	27	15
April	11	10	11	13	13
May	2	3	3	3	11
June	13	12	12	11	11
July	8	7	6	6	11
August	15	13	11	15	12
September.....	26	26	24	27	14
October	28	26	27	29	19
November	12	13	14	18	19
December	29	26	29	30	18
Totals....	191	180	184	205	182

Though the year was a dry year as regards quantity it exceeded the average of wet days, as will be seen in tables 2 and 4. Small local falls at Les Blanches added to this effect in table 2. It may also be noticed that the months September, October, and November taken together gave half the rainfall of the year.

ADDITIONS TO THE LIST OF GUERNSEY DIPTERA.

BY MR. W. A. LUFF.

THE species recorded in the following list were mostly captured during the present year (1896), and will bring the total up to 184.

The following corrections should be made to the previous list, viz. :—*Pulex melis*, Wlk., does not occur with us, and was inserted in error. *Syrphus grossulariæ*, Mg., on further examination turns out to be *Syrphus ribesii*, L. *Tephritis emarginata* is synonymous with *Sphenella marginata*. *Clista mareus* should be *Clista mærens*. In Ansted's list of Jersey Diptera, which is appended to the list of Guernsey species, *L'uclia Cæsa* is evidently meant for *Lucilia cæsar*, and *Septis immaculata* is now known as *Nemopoda cylindrica*.

LIST OF ADDITIONS.

NEMATOCERA.

PULICIDÆ.

Pulex gallinæ, *Bouch.* Common.

CECIDOMYIDÆ.

Cecidomyia salicis, *Schrk.* Common on sallows at Grande Mare, Vazon.

LIMNOBIDÆ.

Rhamphidia longirostris, *Mg.* June 18th, Petit Bôt. Common.
Goniomyia tenella, *Mg.* June 18th, Petit Bôt.
Ephelia marmorata, *Mg.* One, May 10th, 1895.
Amalopis littoralis, *Mg.* Two, June 4th, near Saints' Bay.

TIPULIDÆ.

Tipula luteipennis, *Mg.* L'Ancresse Common.

BRACHYCERA.

STRATIOMYIDÆ.

Beris vallata, *Forst.* One.

EMPIDÆ.

Hilara (?) pinetorum, *Ztt.* July 5th, near Saints' Bay.

SYRPHIDÆ.

Pipizella annulata, *Meq.* Near Moulin Huet Bay.
Platychirus scutatus, *Mg.* Near Doyle's Monument, June.
Syrphus balteatus, *Deg.* Common.
S. ribesii, *L.* Not uncommon.
Sphærophoria (?) picta, *Mg.* Several near Moulin Huet.
Merodon equestris, *F.* I have taken several specimens; the larvæ are very destructive to bulbs.

TACHINIDÆ.

Olivieria lateralis, *F.* Taken by sweeping near Petit Bôt Boy.
Tachina morosa, *Mg.* Two, Torteval, June 24th.
Masicera myodea, *Desv.* Talbot Valley, July 5th.
M. juvenilis, *Rond.*
Clista ænescens, *Zett.*

DEXIDÆ.

Melanophora atra, *Meq.* One.

ANTHOMYIDÆ.

Hyetodesia incana, *W.* Grande Mare, Vazon.
H. signata, *Mg.* Near Petit Bôt, June.
Spilogaster notata, *Fln.* Near Petit Bôt Bay, June.
S. duplicata, *Mg.* Petit Bôt, June.

CORDYLURIDÆ.

Fucellia fucorum, *Fln.* Saints' Bay by sweeping.
Scatophaga analis, *Mg.* L'Ancresse Common.

SCIOMYZIDÆ.

Sciomyza cinerella, *Fln.*
Tetanocera ferruginea, *Fln.*

ORTALIDÆ.

Pteropætria frondescentiæ, *L.* Moulin Huet and Talbot Valley, also in Sark.

TRYPETIDÆ.

Tephritis tersellata, *Lw.* One beaten from hedge, St. Andrew's.
T. vespertina, *Lw.* Not uncommon.

SAPROMYZIDÆ.

Lanxania ænea, *Fln.*

EPHYDRIDÆ.

Notiphila nigricornis, *Stuh.*
Parhydra (?) quadripunctata, *Mg.* Taken by sweeping, Vale.

I have here much pleasure in acknowledging the kind assistance rendered by the Rev. E. N. Bloomfield, F.E.S., and Dr. R. H. Meade, F.E.S., in naming most of the species.

151676

GUERNSEY

SOCIETY OF NATURAL SCIENCE

AND

LOCAL RESEARCH.

REPORT AND TRANSACTIONS

1897.

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Sharp, Mr. W., Brock Road.
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Simon, Col. A., Câches, St. Saviour's.
Spry, Mr. J. Hume, Candie Library.
Stranger, Mr. W., jun., St. Sampson's.
Tourtel, Rev. R. H., D.D., Torteval.
Weygang, Mr. L. G., Smith Street.

TRANSACTIONS OF THE SOCIETY.

Monthly Meeting held on January 20th, 1897, Mr. G. Derrick, President, in the chair.

After reading the minutes of last meeting, Miss Edith Carey, the Vallon, and Rev. R. J. Franklin, Montpelier, Mount Row, were proposed by Mr. J. L. Pitts; Mr. T. Saumarez Dobrée, the Elms, Cambridge Park, was proposed by Mr. E. Ch. Ozanne.

Mr. W. A. Luff exhibited a very fine specimen of the Giant Puff Ball.

Mr. Derrick read extracts from *The Antiquary* for November and December, 1896.

Monthly Meeting held on February 17th, 1897, Mr. G. Derrick, President, in the chair.

After reading the minutes of the last meeting, Miss Edith Carey, Le Vallon, Rev. R. J. Franklin, Mount Row, Mr. T. Sausmarez Dobrée, the Elms, Cambridge Park, were unanimously elected members.

Miss R. Ashburne was proposed for election by Mr. Sharp.

Mr. Hocart exhibited bones from a portion of the peat bed at l'Ancressse, where bones have been previously found by the Society last year, but 50 to 60 yards further out to sea.

Mr. Hocart also read a most interesting collection of local sayings in use, chiefly in the Vale parish.

Mr. Puttock exhibited a Gold-crested Wren caught in Guernsey in February, 1897.

Mr. A. Collenette followed with an account of the chief rocks of Guernsey, dealing principally with characteristics of granite and gneiss, and their distribution in the island.

Monthly Meeting held on March 17th, 1897, Mr. G. Derrick, President, in the chair.

After the reading and signing of the minutes of last meeting, Miss R. Ashburne was unanimously elected a member.

Mr. G. Derrick exhibited specimens of *Narcissus pseudo narcissus*, found in Talbot Valley, now to be added to the list.

A letter was read from the Hon. Librarian of Glasgow Philosophical Society asking for an exchange of *Transactions*.

Mr. T. C. Royle then gave a short history of the Science of Botany, also of that science with reference to the Channel Islands. He then gave a list of the necessary books and implements required by the young botanist.

Mr. G. Derrick then described in a very lucid manner the chief characteristics of the order *Ranunculaceæ*, and exhibited specimens of the plants referred to from the Society's herbarium.

Monthly Meeting held on April 21st, 1897, Mr. A. Collenette in the chair.

Owing to the absence of so many members from the island, the attendance was rather small.

Mr. H. Gill and Miss Gill were proposed for election.

Mr. Luff exhibited larva and imago of Death-watch Beetle *(Xestobium tessalatum)*, and a specimen of the Oil Beetle *(Meloë pro-scarabœus)*, found in a hedge.

Monthly Meeting held on May 19th, 1897, Mr. G. Derrick, President, in the chair.

Mr. Caparn, Mr. H. Gill and Miss Gill were elected members of the Society.

Mr. Collenette exhibited a celt found by himself at Paradis, Vale.

The Secretary announced the receipt of the Report of the Smithsonian Institute for 1894.

Mr. Luff noted the capture of a very rare spider *(Scytodes thoracica)* in a house in Burnt Lane. A specimen had been taken here in 1894, and one has also been taken in England.

A pseudo scorpion found by Mr. Luff on the south cliffs of the island was identified by Rev. F. O. P. Cambridge as *Chelifer Latreillii*.

Mr. Luff also read a list of insects found by Rev. F. A. Walker in Alderney.

Mr. Collenette exhibited fragments of bones found during the peat digging at l'Ancresse, also pieces of charred wood from the same place.

Mr. Collenette (in the absence of the Sectional Secretary, Mr. De La Mare) gave an account of the geological work

done at the three excursions to l'Ancresse, Vale Castle and the Vrangue. A discussion ensued on the age and probable mode of deposition of the clays at the last named place. This brought the meeting to a close.

Monthly Meeting held on June 16th, 1897, Mr. G. Derrick, President, in the chair.

After the reading of the minutes of last meeting, the Secretary announced the receipt of several papers from the Academy of Natural Sciences of Philadelphia.

Several members being out of the island, and the meeting being consequently a small one, it was thought desirable to postpone the reading of Dr. Dunlop's paper on the "Superficial Deposits of Jersey."

Monthly Meeting held on July 21st, 1897, Mr. G. Derrick, President, in the chair.

Dr. De Butts was proposed for membership by Miss Carey.

General Harvey exhibited a celt found by him in the garden belonging to Mr. W. Carey, in Queen's Road.

Mr. Royle, Secretary of the Botanical Section, reported that Rev. Moyle Rogers had found about twenty species of *Rubi* in Guernsey during his recent visit; also *Rosa systyla*, and eight brambles in Sark.

The Hemp Nettle *(Galeopsis tetrahit)* found at St. Saviour's, the first time since the time of Professor Babington.

Mr. W. A. Luff read a description of a species of Coccid new to science *(Ripersa europœa)* found by him on the coast near Bordeaux Harbour in 1895.

Monthly Meeting held on September 15th, 1897, Mr. G. Derrick, President, in the chair.

The minutes of the last meeting having been read, Dr. De Butts was unanimously elected.

Mr. Royle, Secretary Botanical Section, exhibited dried specimens of new plants found recently in Guernsey and Sark; also Rev. M. Rogers' list of *Rubi*.

Mr. W. A. Luff exhibited specimens of the small earwig, *Labia minor*, which were found plentifully in his garden at Mount Pleasant. This is an addition to the list of Guernsey Orthoptera. Mr. Luff also exhibited a specimen of *Pseudo-*

phlæus Waltli, captured near Richmond Barracks in August. It is new to the Guernsey list of Hemiptera, and has not been found in Great Britain or Ireland. Mr. Luff then read the following note :—

"Three years ago I captured a hemipteron at St. Ouen's Bay, in Jersey, which is not described in any work on the British Hemiptera. I sent the specimen to Mr. E. Saunders, who said it was most likely *Strachia cognata*, but it was quite out of its latitude in Jersey, and that he would like to see more specimens before deciding. Last week I again visited St. Ouen's Bay, and after a good search came away with more than fifty specimens ; these turn out to be *Strachia cognata*. I also took many specimens of another beautiful insect, viz., *Therapha Hyoscyami*, which is very rare in England. On the sand a very curious light coloured spider was found. It is so much the colour of the sand that had I not been looking very closely for bugs, I would not have seen it. Larvæ of the glow-worm were abundant under stones."

Mr. Hocart exhibited bones found in digging a well in Mr. Bichard's field, near Grande Rocque.

Mr. Collenette described a kist found in Mr. Hocart's field at Hougue Nermont, east coast of the Vale. He also exhibited specimens of the rocks of Sark found during the excursion on August 26th.

Monthly Meeting held on October 20th, 1897, Mr. G. Derrich, President, in the chair.

The minutes of last meeting having been read and signed, Mrs. Foreman was proposed for election by Mr. Collenette.

The Hon. Secretary reported the receipt of Reports of the Smithsonian U.S. Museum for 1893 and 1894, and Smithsonian Report for 1895.

Mr. Royle exhibited dried specimens of *Euphorbia peplis*, found in Herm on September 7th. This is the first record of its being found since the days of Babington.

He also read a most interesting letter from Mr. E. D. Marquand, describing briefly what had been done in the collection of fungi since August last. The total number of species identified up to the present is 226.

Mr. W. A. Luff exhibited a very fine wasps' nest found in a hedgebank at Bouët, and read a short paper on the ordinary wasp.

He also exhibited specimens of *Monanthia capucina*, unknown in England, *Brachysteles parvicornis*, very rare in

England, both found by him in Jersey this year ; also *Podops inuncta* and *salda*, captured on September 23rd in Alderney.

Mr. Collenette then read a paper by Dr. A. Dunlop (Jersey) on "The Superficial Deposits of Jersey and Guernsey." This led to a very animated discussion.

Monthly Meeting held on November 17th, 1897, Mr. G. Derrick, President, in the chair.

After the reading and signing of the last minutes, Mrs. Foreman was unanimously elected a member of the Society.

The Hon. Secretary reported the receipt, from the Boston Society of Natural History, of several pamphlets.

Mr. Luff exhibited a coloured drawing of a fungus found by him in Talbot Valley. It is new to science, and has been named by Mr. Massee *Clitophilus Sarnicus*.

Mr. Collenette read particulars of the numbers who had attended the summer excursions, and also of the receipts and expenditure.

Mr. Bougourd then read a paper on "The Local Dialect," which led to a very animated discussion.

Annual Meeting held on December 15th, 1897, Mr. G. Derrick, President, in the chair.

After reading the minutes of last meeting, Dr. and Mrs. Lidderdale, of Summerland, were proposed by Mr. E. Ch. Ozanne, and Miss E. Collenette by Mr. Collenette.

Mr. Derrick exhibited a specimen of peat from a digging at Claire Mare.

Mr. A. Collenette read an abstract of his papers on "The Rainfall in 1897," and "The Sunshine in 1897."

Mr. W. A. Luff then read a paper on "The Insects of Alderney."

A paper on "The Fungi of Guernsey," by Mr. E. D. Marquand, ex-President, was read by Mr. Royle.

Mr. G. Derrick followed with a paper on "The Flora of Sark."

The Hon. Secretary then read the Council's Report as follows :—

FIFTEENTH ANNUAL REPORT.

The fifteenth Annual Report of this Society has much that is encouraging to record. The gradual accumulation of facts bearing on the Natural History of the Bailiwick has

been carried on, previous observations and conclusions have been confirmed, new facts noted, and many valuable additions made to the fauna and flora of the island, in some cases the "finds" being new to science. Especially valuable is Mr. E. D. Marquand's paper on "The Fungi of Guernsey," this being the first attempt at anything approaching an extensive list. Full details of the work done will be found in the reports of the secretaries of the various sections.

Both indoor meetings and out-door excursions have been held, though, too often, the attendance has been very small. There have been nine additions to the list of members, which now numbers one hundred.

It is with great regret, however, we have to record the death of Mr. John Whitehead. For some years Mr. Whitehead held the position of President of this Society, in which he took the greatest interest, shewing it in many practical ways. An obituary notice of the deceased gentleman will appear in the *Transactions*.

Death has also removed from our midst Mr. E. Allen, who was for some time Secretary of the Archæological Section.

The following papers have been read during the year :—

a. The Superficial Deposits of Jersey and Guernsey. By Dr. A. Dunlop.
b. The Local Dialect. By Mr. J. Le M. Bougourd.
c. Local Sayings, Proverbs, &c. By Mr. J. J. Hocart.
d. The Sunshine of 1897. By Mr. A. Collenette.
e. The Rainfall of 1897. By Mr. A. Collenette.
f. The Insects of Alderney. By Mr. W. A. Luff.
g. The Flora of Sark. By Mr. G. Derrick.
h. The Fungi of Guernsey. By Mr. E. D. Marquand.

To the learned societies which have furnished us with copies of their reports and various separate papers the Council tender their sincere thanks. During the year we have received

Smithsonian Report for 1894 and 1895.
United States Museum Report for 1893 and 1894.
Proceedings of the Academy of Natural Sciences of Philadelphia, Parts II. and III., 1896, and Part II., 1897.

Also the following papers from the Boston Society of Natural History :—

"The Rôle of Water in Growth."
Notes on the Mammals of Ontario.
Proceedings of the Annual Meeting, May 5, 1897.

Clymene Producta, sp. Nov.
Harvard Geographical Models.
Notes on the Synonymy of the North American Mink, with description of a new sub-species. By Outram Bangs.
On the Colour and Colour-patterns of Moths and Butterflies. By A. G. Mayer.
List of Exotic Orthoptera described by Mr. S. H. Scudder, 1868-79, with a revision of their nomenclature.
On the Larvæ of the Higher Bombyces *(Agrotides Grote)*. By Harrison G. Dyar.
The Jura of Texas. By Jules Marcon.
The Beach Mouse of Muskeget Island. By G. S. Miller, jun.
Some facts in regard to the distribution of certain Mammals in New England and Northern New York. By Ch. F. Batchelder.
A new occurrence of Carboniferous Fossils in the Narragansett Basin.
On the Fracture System of Joints, with remarks on certain great fractures. By J. B. Woodworth.
An important addition to the Fauna of Massachusetts. By Outram Bangs.
Conditions and effects of the Expulsion of Gases from the Earth.
Proceedings of the Annual Meeting, May 6, 1896.
Thomas Tracy Bouvé—Memorial Meeting.
Proceedings of the Academy of Natural Sciences of Philadelphia: September, October, November, 1896.
Proceedings of the Academy of Natural Sciences of Philadelphia: April to August, 1896.

To the authorities of the Guille-Allès Library we offer our best thanks for the use of the room in which our meetings are held.

In conclusion, the Council hope that members will take increased interest in the work and aims of the Society during the ensuing year.

WILLIAM SHARP, Hon. Sec.

The Hon. Treasurer read the Financial Statement, which shows a balance in hand of £5 0s. 1½d.

Mr. T. C. Royle read the Report of the Botanical Section, Mr. W. A. Luff that of the Entomological Section, Mr. J. L. Pitts that of the Folklore Section, and Mr. C. G. De La Mare that of the Geological Section, and Mr. G. Derrick his Presidential Address.

The election of Officers and Council resulted in the re-election of the present Office Bearers and Council.

REPORT OF THE BOTANICAL SECTION.

The past year has been in several respects an eventful one for this section. In Phanerogamic Botany it is marked by the virtual completion of our Sark flora, a result attained by the copious lists made during the visits of Mr. Derrick, the Rev. Moyle Rogers and others to that island.

The visit of Mr. Rogers (who is the recognised authority on the British Rosæ and Rubi) to the Channel Islands was also a very interesting event; we are indebted to him for the list of additions to the roses, and the catalogue of species for this difficult genus may now be considered complete both for Guernsey and Sark; it is very short, unfortunately, our islands being unusually poor both in species and plants as compared with other British areas. We have, however, compensations in other directions.

Of the Rubi both our species and plants are much more numerous, and a fair list has been compiled; but as several specimens have yet to be determined it has been thought best to defer its publication until next year. It is expected that a monograph on the Rubi of the Channel Islands and Northern France will be published in the *Journal of Botany* early in 1898, to which I may refer those who are anxious to obtain early information on the subject.

The list of Fungi which appears in these *Transactions* will make the year a memorable one for Cryptogamic Botany also. In my report for 1894 I had the honour to state that with the sole exception of this large and difficult class our flora was then up to date. Owing to unusually favourable circumstances, which are referred to more fully in Mr. Marquand's introduction to the list, we had an almost unique opportunity of filling up this gap. In the work of collection the section appealed to the members generally for assistance, and this appeal has been nobly responded to, the result being a record one, no less than 450 different species having been collected, packed and forwarded to London, and there examined and named in the short space of four months. I may add that the number of species by no means represents the number of specimens sent up. These would probably number about 2,000. Such a result could not have been obtained by the members of the section alone, and their hearty thanks are tendered to those who have so ably assisted them.

The valuable help and, to them, still more valuable time, so freely given to the section by such distinguished and consequently much occupied men as Mr. George Massee, F.L.S., and the Rev. W. Moyle Rogers, F.L.S., merits the

warmest thanks of its members, and I think I may venture to add of the Society as a whole.

Certain progress has been made in the compilation of a list of the flowering plants of Alderney. A serious attempt will be made to complete this in 1898. Any members visiting the island can render great assistance by bringing back gatherings of plants, however small.

The following papers have been contributed this year by members of this section.

"The Fungi of Guernsey," by Mr. E. D. Marquand.
"Additions to the Sark List of Flowering Plants," by Mr. G. Derrick.

ADDITIONS.

Rosa rubiginosa, *Linn.* Perelle Bay, one plant (Mr. F A. Rogers).
Rosa stylosa, *Desv.* Var. *systyla* (Bast). Sark (Rev. W. Moyle Rogers).
Cnicus arvensis, *Hoffm.* Var. *setosus* (Bess). Garden in the Grange (Captain Lukis).
Galeopsis Tetrahit, *Linn.* Field at back of Colonel Simon's house, St. Saviour's (Mr. G. Derrick).
Euphorbia Peplis, *Linn.* Beach at Herm (Mrs. J. B. Randall).
E. lathyris, *Linn.* Norgeots (Mr. Le Lacheur).
Salix caprea, *Linn.* Fermain Bay (Rev. W. Moyle Rogers).
Narcissus pseudo-narcissus, *Linn.* Les Jardins, Castel (Mr. G. Derrick).
Anthoxanthum puelii, *Le Cocq and La Motte.* L'Ancresse, near Vale Church (Rev. W. Moyle Rogers).

T. C. Royle, Sec. Bot. Sect.

REPORT OF THE ENTOMOLOGICAL SECTION.

Several important additions have been made to the Insect Fauna of Guernsey during the past season.

Among the Lepidoptera, the Rev. F. E. Lowe, F.E.S., has been successful in rearing three rare species of the genus *Dianthœcia*, viz., *Dianthœcia nana*, *D. luteago* and *D. capsophila*, all feeding on *Silene maritima*. The two last named are new to our Guernsey list.

The variety of *Dianthœcia luteago* named *Barretti* has been found in very few localities in Great Britain, and for some years was believed to occur only at the Hill of Howth in Ireland. It has been recently taken in Cornwall and North Wales. The Guernsey specimens are much more like the type of *luteago* as found on the Continent than the English or Irish varieties.

Dianthœcia capsophila is stated in "Newman's British Moths" to occur only in Ireland and the Isle of Man.

In addition to the above the Rev. F. E. Lowe has added four species of *Geometrid* moths to the list, viz., *Eupithecia venosata.*

E. castigata, *E. pumilata* and *Gnophos obscurata.* The last named has been taken in Sark and Alderney, but has not hitherto been recorded for Guernsey.

A curious Hemipteron was captured by myself on the West coast of the island, near Richmond Barracks, which turns out to be unknown in Great Britain or Ireland. It is named *Pseudophlæus Waltli.* Mr. E. Saunders, F.L.S., in writing about the insect, says :—" I cannot find any localities for *P. Waltli* so far North as Guernsey. Puton, in his catalogue, says : '*Eur: Mer:*' so I think it is an interesting capture.' "

One addition has been made to the *Orthoptera*, *Labia minor*, a very small species of earwig. Four species of *Hymenoptera* have been added and five species of *Diptera.*

In the *Entomologists' Monthly Magazine* for July of this year, a description is given by Mr. R. Newstead, F.L.S., of a *Coccid*, new to Science, which has only been recorded from Guernsey and near Rheims in Germany. It has been named *Ripersia europœa.* This species was first discovered by myself on the north and west coasts of this island in 1895. Mr. Brocton Tomlin, B.A., found specimens near Bordeaux Harbour in 1896, and it was taken by Mr. E. Wasmann near Rheims, in Germany, also in 1896. They are plentiful under stones in ants' nests near the shore, and the ants carry them off into their burrows when disturbed.

It is remarkable that we have three species of insects belonging to this family, all living in ants' nests, two of which are peculiar to the Channel Islands, and the other with only one known habitat on the Continent.

A first list of the Insects of Alderney has been compiled and will be published in the *Transactions.* This list is necessarily very incomplete, and I will be grateful for any insects that members may be able to collect when visiting the island.

ADDITIONS TO THE LIST OF THE MACRO-LEPIDOPTERA OF GUERNSEY.

Dianthæcia capsophila. Bred by the Rev. F. E. Lowe from a larva feeding on *Silene maritima*, June 23rd.

D. luteago. Three specimens bred by the Rev. F. E. Lowe from larvæ feeding on *Silene maritima*, June 15th and 16th, 1897. One was bred in 1890, but was not identified until this summer.

Eupithecia venosata. Bred from larvæ feeding on *Silene*, May 1st and 2nd. Captured specimens June 7th, Rev. F. E. Lowe.

E. castigata. One specimen, captured by Rev. F. E. Lowe.

E. pumilata. Bred from flowers of foxglove, August 1st and following days, 1896. Rev. F. E. Lowe.

Gnophus obscurata. Bred one, August 14th, 1897, from a larva found on the cliffs of south coast. Rev. F. E. Lowe.

ADDITION TO THE LIST OF GUERNSEY HEMIPTERA-HETEROPTERA.

Pseudophlæus Waltli. One specimen found under a stone near Richmond Barracks by W. A. Luff, August, 1897.

ADDITION TO THE LIST OF THE ORTHOPTERA OF GUERNSEY.

Labia minor. Common in my garden at Mount Pleasant, Burnt Lane, June, 1897.

ADDITIONS TO THE LIST OF THE HYMENOPTERA-ACULEATA OF GUERNSEY.

Vespa germanica, *Fab.* One specimen, captured in the autumn of 1896.

Odynerus spinipes, *Linn.* One specimen captured in July near Petit Bot Bay.

O. callosus, *Thoms.* Not uncommon.

O. trifasciatus, *Oliv.* Two specimens captured near Grandes Rocques in June.

ADDITIONS TO THE LIST OF THE DIPTERA OF GUERNSEY.

Syrphus luniger, *Mg.* One specimen captured at Moulin Huet Bay, July, 1897.

Nemoræa quadripustulata, *F.* One specimen of this reputed British species captured near Cobo.

Scopolia carbonaria, *Pz.* Several taken near Petit Bot Bay.

Sciomyza nana, *Fln.* One taken in June, Talbots Valley.

Urellia stellata, *Fuessl.* One near Vazon.

W. A. Luff, Sec. Ent. Sect.

REPORT OF THE GEOLOGICAL SECTION.

The results of this year's work are arranged in the form adopted in the preceding reports. Much attention has again been devoted to the investigation of the superficial deposits, but the rocks and their relation to each other have not been neglected.

SUPERFICIAL DEPOSITS.

A.—PEAT.

Three excursions were devoted to peat digging at l'Ancresse Bay. Bones, chips and cores of flint, also pieces of carbonized wood were found as on previous occasions, but the

bones were not so abundant as last year, notwithstanding the beach was tried in various spots hitherto untouched. The flints and carbonized wood confirm the supposition that man was present here at the time when the peat formed part of the land surface ; but this year's investigations do not support the idea that the peat in this locality belongs to more than one bed. It would rather appear that all the exposures belong to the same layer, gradually but irregularly sloping seaward. The irregularity of the slope is attributed to the percolation of land water under the peat. This water, in endeavouring to find its level, and being unable to penetrate the peat, forces it up in various places. In some of the excavations so soon as the layer of peat had been pierced by digging, this underlying water welled up so abundantly as to prevent further work.

A bed of peat 1½ foot in thickness has been exposed in digging a well about 100 yards inland from Grandes Rocques. Vegetable remains were abundant, but no bones have been discovered.

B.—BRICK EARTH, HEAD, AND OLD BEACHES.

1.—*Vrangue Brickfield.*

This brickfield requires visiting from time to time as new sections are being continually exposed in the course of the work. This year a pebble of red granite was found in the upper pit at least 8 feet below the surface, in a band of rubble about 6 inches thick lying between two sandy bands. In another part of the same pit a small flint pebble was found in sand. It was only as large as a small pea, and had one side fractured, but it is sufficient to show that this sand is not entirely derived from the disintegration of local rocks ; and these finds seem to point to the former existence of an old beach at a higher level, which has been so entirely swept away as to leave only a few pebbles as tokens.

In the lower pit various flint chips were found at different depths in what seemed to be undisturbed head, consisting of clay with angular rubble. A worked flint was picked up at the foot of the cutting, which unfortunately could not be located as to its origin. The working of this pit has this year exposed the rock *in situ*, showing it to be a spur of the diorite outcrop known as Mont Arrivé, on which are the remains of an old battery.

2.—*Barker's Quarry.*

A great landslip occurred last winter in this quarry (now abandoned and in process of being filled up with refuse).

This landslip, due to springs, had produced an undercliff and fissured the ground in the neighbourhood, reminding one on a small scale of some of the cliffs on the south of England. Superficial deposits consisting of rubble overlaid by brick earth occur on the north-west and also on the east side of the excavation. Their extreme depth is about 8 feet. The fragments at the base of each of these deposits are large, their longer axes are generally horizontal, and they are more or less arranged in layers. The surface of the underlying disintegrated rock is smooth and well defined. From the similarity of the two deposits it is probable there was a buried channel running across the surface now excavated.

3.—*Vale Castle.*

Mr. Hardy, manager of Messrs. Mowlem's quarries, reports that an old beach was found in opening the quarry south of Vale Castle. It lay under 10 feet of rubbish (by which term probably head is meant) and about 50 feet from the present beach. Its level would probably be about 25 feet above mean tide.

4.—*Mont Cuet.*

This is one of the best spots in the island for old beaches. The quarries, though small, are numerous, and almost every one offers an interesting section. In some the old beach is mixed up with large angular blocks, many of which are disintegrated. Some of the rounded pebbles are over two feet in diameter. The arrangement shows little or no signs of stratification.

5.—*Mont Saint.*

In a quarry near the old waterworks pumping station, pebbles, chiefly of porphyritic gneiss, were found at the base of the head. They were unequivocably undisturbed and point to a submergence anterior to or coincident with the formation of the head, not perhaps greater, however, than that which has produced the beach at Les Rouvets, the highest hitherto found in the island.

6.—*L'Erée.*

The raised beaches in this part of the coast are well known. They are overlaid by head, which in some places is capped by another layer of pebbles, probably a modern storm beach. In other places the layer immediately under the soil contains scattered pebbles, some flint flakes, pieces of pottery and lumps of baked clay showing impressions of fingers. In all these respects this part of the coast resembles Richmond.

7.—*Les Pezeries.*

A few pebbles in head were found here, but their position is not such as to absolutely exclude the possibility of their having been introduced by the agency of man.

ROCKS.

1.—*Hougue Nicolle.*

There are two quarries opened in this hougue, but they have not been opened to any depth, and the greater portion of the rock is much disintegrated. The rock is quartz diorite. In the southern or older quarry a very micaceous patch was noticed, which does not form a vein, but seems to be an inclusion surrounded by the ordinary diorite with which it is blended at the edges. In both the quarries there are veins of quartz felspar in which the constituents are often separated in large crystals, with but little mica or hornblende, but associated with epidote. One of these veins cuts across the micaceous patch above referred to.

2.—*Pont Vaillant.*

In a furze-brake lying south of Pont Vaillant lane, towards the east end, is a small quarry of disintegrated gneiss. This confirms the line of boundary between the gneiss and diorite adopted by the Rev. Hill in his geological map of Guernsey. Of course many small patches of diorite are found to the south of that line which have not been inserted in his map.

3.—*L'Ancresse Bay.*

Attention has been called to some large flat stones on the west side of the gully where the peat is found. These seem as though they might have been placed in their actual position by man, and it has been conjectured that they might have formed part of a cromlech. They are of hard diorite and syenite, contrasting with the rather disintegrated and rusted granitic rock in the immediate neighbourhood. It is not, however, necessary to go far to find an outcrop of similar rock. This will be found in the south-western corner of the bay, and large blocks of the same rock are strewn on the granite over the greater part of the bay.

4.—*Le Tertre, Castel.*

To the east of the rock called Le Tertre, almost opposite the entrance to La Trappe, is an outcrop of Cobo granite, but a little way down the same rock an exposure of diorite and

gneiss may be seen in the Waterway. The gneiss appears altered and blended with the diorite by fusion. The same rocks may be seen in similar relation to each other at the foot of the hill on which the tower called "Le Griffon," serving as a look-out, is erected, and here the granite may also be seen to intrude and contain inclusions both of diorite and gneiss. The intrusion of the granite may have been the cause of the blending and alteration of the diorite and gneiss. The same relations of the rocks may be also observed in the gravel pits close by, but the rock in these pits is so disintegrated that it is often difficult to distinguish the granite from the gneiss.

5.—*L'Erée Peninsula*

Is an outcrop of porphyritic gneiss with intrusive dykes of coarsely crystallized quartz felsite. Amorphous diorite dykes are not so numerous as in many other parts of the island, but a broad one occurs near the northern extremity. Inclusions of porphyritic diorite occur in the gneiss similar to those found at Richmond, and recalling those in the Vale granites, but more lenticular in form, as though deformed by pressure, without, however, any foliation. These inclusions afford an argument in favor of the igneous origin of the gneiss, and indicate the greater age of the diorite which may be related to the rock termed hornblende gabbro by Rev. Hill. The non-foliation of the inclusions may be due to subsequent recrystallization.

6.—*Cliffs west of Les Thielles.*

In the report for 1894 (page 329) allusion is made to the two kinds of gneiss found in this neighbourhood, viz., the syenitic on the west, and the porphyritic on the east. The junction of these may be seen at the foot of the cliff, but is rather difficult of access. It appears to be a fault accompanied by reconsolidated crushed rock and by a quartz felsite and several diorite veins, the whole forming a complicated section which will repay further examination. The porphyritic gneiss to the East of this junction is much altered and, as already noticed in the report for 1894, is blended with the diorite veins sometimes forming a rock resembling hornstone. As the distinction between the two kinds of gneiss can be traced across the island to the east side of Richmond peninsula, it is probable that the separating fault extends the whole distance. The rock on one side of this fault contrasts strongly with that on the other, but veins of the porphyritic variety occur in the

syenitic, and the relation of these two rocks to each other is a point requiring further investigation. To the east of the junction a small fissure cave has been produced by the erosion of a diorite dyke. This cave is about 65 feet in depth, 25 feet high at the entrance and 5 feet average width. Still further east is a picturesque natural arch formed along lines of weakness caused by intruding dykes of felsite and diorite. To the west of the junction a mica trap dyke occurs. Its strike is apparently north and south, and being at least twenty feet wide, it ranks among the most important in this Island.

SARK.

A portion of the north-east coast of Sark was examined on the 21st August, 1897, in most unfavourable weather. At l'Eperquerie landing the rock is syenitic gneiss resembling that of Richmond, and, like it, containing inclusions of diorite drawn out into lenticular masses and bands. As the coast is followed to the south-east, and the junction between the syenitic gneiss and the hornblende schist so largely developed in Sark is approached, the appearance of some of these inclusions seems to indicate that they are portions of the schist caught up and modified by the gneiss which was originally an igneous rock.

Large dykes of amorphous diorite resembling our talvane cut both the syenitic gneiss and the schist, and are evidently posterior in date. The junction between the gneiss and the schist is obscured by the intrusion of several of these dykes, and also by faults. This junction may be seen repeated on both sides of a small cove to the south of the Eperquerie. In the section on the north side of this cove, a strip of schist about a yard wide runs vertically up the cliff bounded by syenitic gneiss on one side and by diorite on the other. The boundary between the gneiss and the schist is very distinct, and is evidently a fault, while the diorite on the other side is intrusive. On the south side of the cove veins of syenitic gneiss may be seen intruding in the schist, but owing to a fault (along which a natural arch has been formed by erosion) the connection of these veins with the main body of the gneiss cannot be traced. These veins cut across and disturb the felspathic and granitoid bands in the schist, which bands are therefore anterior to the intrusion of the gneiss. That the schist itself with its bands is also of igneous origin appears probable from the fact that the bands may be seen occasionally to pass into veins cutting the foliation at all

angles, sometimes even at right angles, when they become widened and assume a flattened serpentine form.

Erratum.—In the report for 1896, at page 87, line 23, for "dreccia" read "breccia"; and at page 88, lines 5, 7, and 10, for "cove" read "cone."

C. G. De La Mare, Sec. Geo. Sect.

REPORT OF THE FOLKLORE SECTION.

One of the most important communications of the year in the Folklore Section, is a voluminous paper on "The Rock and Place Names of the Guernsey Coasts," kindly compiled by the Rev. R. H. Tourtel, B.D., Rector of Torteval. This list comprises names extending round the entire circuit of the Island, and is divided into sections according to the parishes. The basis of the list is an ancient M.S., to which Mr. Tourtel had access; then he has added largely to this from various local sources of information, and has besides given English translations of the French names, together with elucidatory notes, historical and traditional, wherever anything throwing light upon the subject was accessible. Many of the names of our outlying Guernsey rocks are very curious, and Mr. Tourtel's painstaking efforts to explain their origin and meaning have resulted in a way that is at once interesting and valuable. In previous reports I have referred to these researches of Mr. Tourtel's as being in progress; his delay in handing in the lists being due to a laudable desire on his part to make the whole as complete as possible before doing so.

Mr. Hocart has also kindly contributed further examples of local proverbs and proverbial expressions; while Mr. Bougourd's interesting paper on "The Franco-Norman Dialect of Guernsey," also has a certain bearing on the Folklore, as well as on the Folk-speech of those who use it.

Last autumn I received some interesting communications from Mr. E. P. Le Feuvre, a gentleman of Jersey extraction, residing in London, and connected with some of our Guernsey families. Mr. Le Feuvre very kindly left with me copies of a number of interesting documents which he had transcribed from the Finch-Hatton Collection of Papers in the British Museum, and from other sources.

He also gave me the details of a remarkable local witch story, which he had found in a curious old M.S. in the library of Dr. Witham, of Gordon Square, London. This MS., which is in two volumes folio, is entitled "*Icones Sacræ*

Gallicanæ et Anglicanæ," and contains seventy biographies of ministers and clergymen. Among them is a sketch of the life of the Rev. Daniel Fautrat, of Guernsey, who was minister of the Câtel Parish ; then of Torteval ; and who afterwards, in 1633 (in the reign of Charles I.), succeeded Mr. de la Marche, at St. Peter-Port. This MS. is by a John Quick (born 1636—died 1706). There were two Fautrats, Helier and Daniel, father and son, and the biographer somewhat confuses them. This story of the witch—who was burnt alive in the Bordage during Daniel Fautrat's ministry at the Town Church—is a very curious one, and is a decided acquisition to the witch-lore of the island. It is as follows :—

THE WITCH AND THE RAVEN.

"After Monsieur [Daniel] Ffautrat had spent some years at Torteval and St. Andrew's [Guernsey] he was, upon the death of Monsr. de la Marche, called to succeed him in ye Pastorall charge of St. Peters-Port, [in 1634, in the reign of Charles I.] which is ye Towne of this Island, a fair Markett Towne and priviledged with ye Sessions of ye whole Island, where all caisses Civill and Criminall are finally tryed and determined in ye Playderoye, by ye Bayliffe and Jurates.

"During his ministry in this Towne, and about ye year 1640 [Charles I.] there happened a most remarkable event. Divines do say that it is a very rare thing for witches under Gospell Light to repent ; and some have given this reason of their assertion—because they have committed that unpardonable sin against ye Holy Ghost. I cannot tell, but that this following story seems to confirm it.

"There was a certain woman of this Island, above four-score years of age, who had been imprisoned, indicted and found guilty upon full evidence, of that abominable sin of witchcraft, and for it was condemned to death. She gave out confidently that she should not dye. However, she is carried from prison to ye appointed place of Execution to be burnt alive.

"All the way, as she was going thither, a great Black Raven was seen hovering, and heard croaking after a dolefull manner over her head, till she came to ye stake. And now, whilst they be fastening ye chain, she begs of one of the Bystanders to give her a clew of thread, which having received, she fastens one end of it to her girdle, and taking ye other end, she flings it with her hand up into ye aire. The Raven, stooping down, catcheth at it with his Beak, and mounting, carrys with him ye old witch from ye bottom of ye vale up into ye air. A young man of that Island, seeing her flying, being on ye top of ye hill, flings his Halbard so exactly betwixt her and ye raven, that it cuts ye thread asunder, and ye old witch is taken by him, but with many fearfull imprecations upon him, she vomityng out whole cartloads of curses against him.

"However, she is once again carryed down to ye stake, and there accordingly executed, being burnt to ashes. But this poor officious wardour, whose name was Gosslin—ye holy wise providence of God so permitting it—felt a short time after, ye bitter consequences of her rage and dying curses; for he grew sick of an incurable disease, lying under most exquisite torments, of which he could never be relieved by any means or medicines, till having languished some years, he was at last released from his sufferings by death."

J. Linwood Pitts, Sec. Folklore Sect.

PRESIDENT'S ADDRESS—1897.

BY MR. G. T. DERRICK, PRESIDENT.

It is with a considerable amount of diffidence that I address the members of this Society this evening on the subject of "Guernsey in Prehistoric Times, or the Early History of Man in Guernsey."

This subject has frequently been touched upon at our meetings. It is one upon which very little information can be obtained from the older writers, who in many instances have accepted statements which a little research would have proved to be utterly without foundation, and others which depend wholly on legend or tradition. I shall have to refer to some of these statements in the course of this paper, in which it is my object to bring together what I have been able to glean on this subject, so that it may be methodically discussed, the opinions of members elicited, and a sketch of prehistoric times drawn, which can, later on, be filled in with details resulting from the researches of Antiquarians and Archæologists from time to time.

In treating this subject I shall bring before you my idea of the teachings of the cromlechs and other ancient remains, and the more recent superficial deposits in the island, and I shall make references to ancient writers who are supposed to have mentioned it in their works.

My first point is : That we have hardly sufficient remains of Paleolithic man, or of the animals with whose remains he is usually associated, *e.g.*, the bison, mammoth, the reindeer, the cave hyena, &c., to enable us to state with certainty that Guernsey was inhabited in Paleolithic times.*

Nor is this surprising when we remember that such remains are usually discovered in caves, especially in those occurring in limestone formations, where a calcareous deposit has securely sealed up and so preserved the bones of men and animals ; or in drift or river deposits, which could not attain any great extent in our limited area. Additional proofs may yet be unearthed, and for them members should diligently search all clay deposits, the earliest peat deposits, or any

* A few (less than a dozen) apparently paleolithic flint implements are the only evidence at present existing.

cave which may have existed and afforded shelter in those most ancient times.

Though we have no conclusive evidence of the existence of Paleolithic man in our island, we have abundant proof of the presence of the man of the Neolithic or New-stone age.

It is undecided what *race* of man built those ancient stone monuments, the Cromlechs, and erected the Menhirs, but archæologists agree that they belong to this period of the world's history. Let us see what evidence we can glean from an examination of these structures. The Cromlech builders lived after the surface of the island had assumed its present contour, though it may have been considerably larger, especially towards the West, North and East. The clay deposits had been laid down, for they dug into them to secure a foundation for their work. Mr. Lukis, in his paper read before the Society of Antiquaries in 1853, says* "Round the base of one (the Menhir, near the Paysan) in Guernsey was a flat floor . . . . in a matrix of hardened clay. At L'Ancresse Great Cromlech† The different layers of urns, &c., are separated by a quantity of limpet shells . . . and a little *yellow clay* strewn upon the original deposit! Again, ‡ "Nothing was found with the urns, excepting the limpet shells and *yellow clay* in which they were embedded!"

Whether the cromlech builders lived before or after the deposition of the peat we will discuss later, but one formation is more recent than their erection, viz., the blown sand, for it drifted into and filled all the upper part of the Great Cromlech, and buried it out of sight. It is still being formed in some parts of the island, and is therefore the most recent of the superficial deposits. The pottery and ornaments found in the first and in all stages of the Great Cromlech belong to the Neolithic age; the animals whose bones are found there are those introduced with Neolithic man; the implements, too, are Neolithic.

After the cromlech had been erected, centuries must have elapsed during which it continued to serve its original purpose. Mr. Lukis says: "Time and ages elapsed before the *lower* floor being covered, the remains originally deposited were removed to make room for others"; then those removed were placed between the props, and afterwards new urns and bones gradually covered it again; then this stratum was covered over wtth a layer of limpet shells mixed with a little clay, over which flat stones were placed, and subsequently the new floor was covered in a similar manner. Later, "The area

* P. 236. † P. 244. ‡ P. 245.

was increased by additional side props and capstones placed always at the East side." So, though ages had elapsed, the people still had the same burial customs; there had been no change in the character of the interments; the bodies were still burned, and only the ashes and a few bones were brought in for preservation. But the cromlech called De Hus remained open and was used as a place of sepulture to a much later period and probably by a different tribe, for in one of the additional chambers there were* found two whole skeletons, which had been buried in a kneeling posture side by side. How long a period, how many centuries are we to allow for all these processes?

But one other point claims special attention here, viz., that in one of the cromlechs, "A kind of armlet, of a highly decomposable alloy of copper," was found. Unfortunately we are not told in which layer this occurred, but from the mention of urns in the same paragraph, it appears as though it was in the lowest or the second stratum.† At any rate we have here a proof that we have arrived at a late period in the *stone age* of Guernsey.

On the mainland, at no great distance, the bronze age had commenced, and this ornament was brought over as an article of merchandise, or perhaps the body of the deceased was brought to the Holy Isle for cremation and interment, and this article still encircled the arm.

The great number and the size of these erections show that the island was pretty thickly populated, or that a considerable body of people came over for the express purpose of erecting them. The hundreds of urns point to a large permanent population; the bones of oxen show abundance of pasture, and the cartloads of limpet shells and the fish bones, that the sea was at no great distance. Here, then, we have a people using polished stone implements, having domestic animals, getting their living by farming, fishing and hunting, and existing onward until the bronze age was established on the mainland. They carried on, too, a certain amount of trade, for some of the stone implements found in the island are most beautifully shaped and smoothed from stone not existing here, so that these and the copper and bronze articles must have been brought by merchants from a distance.

* P. 247.

† Since the above was in type, I learn from a paper by Mr. Lukis, entitled "Observations on the Primeval Antiquities of the Channel Islands," pp. 231, that this *torque* was found under "La Roche qui sonne" (Vale parish) and *above* the primeval deposit; but as Mr. Lukis tells us, "It was ornamented with chequered lines much resembling the patterns on some of the urns," we are justified in referring it to the same period; it may even have been fashioned by the same artist.

In the *peat* deposits of L'Ancresse we have evidence of a similar people, who may have been contemporaneous with the cromlech builders. Only neolithic animals are here represented: the ox, stag, hog, dog, &c. The pottery is similar, and the polished stone ring, found in digging this peat on the shores of L'Ancresse Bay, may point to a date in late Neolithic times.

The narrowness of this peat band, and the leaves of flag seem to show that at this spot there was at that time a small stream or pond bordered by vegetation similar to that now growing near, while the frequency of hazel and other larger trees points to a considerable extension of the land seaward, and that to a greater extent than can be accounted for by the very slow subsidence in this part of Europe, which is generally acknowledged to have been going on for centnries, and to be still in progress. The number of deer bones proves these animals to have been abundant, and to support such herds it is thought an area much larger than the present island would be necessary. It is objected that Herm was large enough to support a herd of stags 200 years ago, but these were preserved and treated somewhat like domestic animals, whereas those in Ancient Guernsey were hunted, killed and eaten, and would soon have been exterminated from the smaller area. The peat deposits, generally, promise to throw considerable light on the subject we are discussing, but they have not yet been examined sufficiently to enable us to speak with much certainty as to their teaching. Our worthy ex-President, in his address (*Transactions*, 1896, p. 83), says: "There are three levels of peat." He might have said at least *four*, for he has not mentioned that covering a common below the Guet, at Cobo, towards Houmet, which is at a higher level than any he enumerates. But the peat, notwithstanding differences of level, may all be of the same age. When the peat was being formed on the then enlarged island, there may have been various places suitable for its deposition at different elevations. In Ireland such conditions are constantly found; we all remember, lately, that a bog burst, ran down a slope, and overwhelmed another at a lower level. So I put it that the patches of peat recently dug into and the larger beds buried deeper under the sand, are likely to be of *one* period if not one bed. Would it be fair to make *this* comparison between the clay and peat beds? The compact yellow clay occurs at different elevations, yet because of the uniformity of its general appearance, its contents and its structure, it is regarded by all of us as being of one age, in

fact, as one deposit. So the submarine peat at Vazon, &c., and that lying just under the higher beach at L'Ancresse, Cobo. Vazon, &c., and that under the western marshy land, are really one deposit formed nearly contemporaneously. In support of this theory, members can turn to an account given in "Rambles of a Naturalist," or to Professor Ansted's "Channel Islands," for the result of a storm in 1847 on the lower peat of Vazon Bay, when among the masses of peat thrown on the beach, there were roots of grasses, rushes, and weeds, trunks of full-sized trees and brauches of the same. The perfect state in which they were, shows that they had been long buried under sand. The compression of the trunks and branches exhibits the first indication of that flattened form which all fossil plants undergo. Acorns and hazel nuts were found, also teeth of horses and hogs, Celtic pottery and stone implements. Except for the implements and the larger scale on which it occurred, this might be written word for word as a description of the peat the Society has examined at L'Ancresse, &c.

The peat on the common below the Guet, like that at Fort Doyle, &c., differs very much in appearance from these others, but this may arise from their being sub-aerial instead of submarine beds. In these, too, we have evidence of Neolithic man in the fire-holes shown us by Col. Collings, and in the hut circles pointed out by the late Mr. Allen at Homptol.

One statement in Professor Ansted's book* rather staggered me. "Coins of Roman date . . . have been found in the peat at considerable depths." If these coins had been dropped into the peats in the same manner as the bones and stone implements, we should have the formation of the peat and the building of the cromlechs brought down to historic times. But on looking up Mr. Lukis's letter in "Rambles of a Naturalist," p. 381, I find his words are: "It is also reported that several hundred Roman coins were discovered in the peat some years ago. I learn that the neighbourhood of La Mare de Carteret, near Cobo Bay, was the favoured spot where these were found." Notice "It is reported." These reports are constantly misleading. Then "several hundred" of them being found at one spot, point immediately to their having been buried for the purpose of concealment; persons of any subsequent generation may have dug down and buried things in the peat.

Another statement on this subject, contained in a letter of Mr. F. C. Lukis, written in 1869, and printed on p. 75 of

* P. 285.

Peacock's "Sinkings of Land," is not so easily disposed of. The words are: "Lately on S.W. of Vale Castle, a portion of peat bed was uncovered by the contractor of the new breakwater, and a quantity of Roman coins (large brass) were picked up by the men." One can hardly suggest that these were buried at this spot below the sea-level, but it might be that a vessel conveying the coin was wrecked at this spot at a time when the peat was not buried by sand.

Sand has been continuously deposited from the very earliest times. In the immediate neighbourhood of a sandy coast, there would naturally be sand drifting in every gale, and being deposited inland, sometimes to a considerable distance, as on our West coast and at the Quenvais, in Jersey, &c., but in the thick beds of layered sand lining our West coast and forming the most recent of our superficial deposits, we have proof that ages have passed since the deposit of the peat which it overlies, and also that the sea has never been far from that district; in other words, that the island has been as near as possible of its present dimensions.

We have sand of different ages, for it occurs under the clay at the Vrangue, between the clay and peat, between layers of peat, over the peat, and some is being deposited at the present moment. The examination of the older sands undertaken by our ex-President, Mr. E. D. Marquand, gave results which were purely negative, which, therefore, do not assist us in our present enquiry.

We now approach the period of historic records, and as Julius Cæsar was the first author who came near these shores, we naturally enquire what does he say about these islands? In the third book of his Commentaries, we have an account of the warfare he waged upon the inhabitants of the adjacent parts of Gaul. He tells us that he himself undertook the subjugation of the Veneli, as they were the most powerful tribe, and their country offered the greatest difficulty for warlike operations, owing to its being so much intersected by the sea. These people lived on the South shores of Brittany; *Vannes* takes its name from them.*

His Lieutenant, Sabinus, was entrusted with the operations against the more Northern tribes, and he in a single battle crushed the Unelli, Curiosolitæ, and the Lexovii†, and then Cæsar led his army into winter quarters among the Lexovii, but it is not likely he remained in that district himself, for every winter he was obliged to proceed to Rome. Thus, you

* The expression (Ch. ix.), "Romanos neque portus insulas que novisse," refers to the islands near the Morbihan.

† Ch. II.

see, Cæsar himself may never have approached the coasts of Gaul closest to these islands, yet we find Syvret, in "Le Chronique des isles de Jersey," saying, that "Cæsar seeing Jersey from the neighbouring coasts of Coutance, passed over to it in a coracle *(barque d'osier)*; he was accompanied by a dozen cavaliers, whom he left in the island to guard over its inhabitants, and ensure his authority over them." He cites the "Livre Noir de Coutances" as his authority, but Dupont, in his "Histoire du Cotentin et de ses Isles," says, "There is in the said book no allusion to any such occurrence."

I, myself, have often wondered whether the people mentioned as coming from Britain to assist the Gauls in this war did not, in part at least, come from the Channel Islands.* It seems difficult to send and to obtain the help of a great band of warriors from the distant island, and from people, too, who had little interest in assisting the attacked or repelling the invaders, but the inhabitants of these islands would be closely connected with the Lexovii, &c., and would readily render them all the help they possibly could.

The author of "Cæserea—the Island of Jersey," &c., tells us† "The earliest mention of the Channel Islands is in the sixth book of Cæsar's Commentaries, where it is stated that one Ambiorix, having rebelled against the authority of Cæsar, was quickly overcome . . . the chief fled to the shore and passed over to some islands. These islands are supposed to be Jersey and Guernsey, from the description that is given of their appearance from the land, which corresponds to their general appearance at the present time." The Eburones, the people here referred to, lived on the banks of the Meuse, and what Cæsar does say, is (chap. 31) "Those who lived nearest the sea (these) hid themselves in the islands which the tides are accustomed to form." So that these islands can only be those in the delta of the Meuse and Rhine, and Cæsar gives no description of their appearance from the land; and in Chap. 43, which gives an account of the steps Cæsar took to capture the flying chief Ambiorix, we read, "He, concealed by the night, sought other regions and districts, with no larger a guard than four horsemen, to whom only he dared trust his life." He escaped, but there is no mention of his flying to any islands whatever.

Cæsar, then, does not help us; but a few centuries later there is a list of islands in the English Channel given in the Itinerary of Antoninus, and the Ceserea of that list is

* C. De B. G., Chap. ix., Auxilia ex Britannia quœ contra cas regiones posita est arcessunt.

† P. 8.

invariably understood to be Jersey. This itinerary was, according to Mr. Métivier,* compiled in the 4th and 5th centuries, and the islands are Arinia, Sarnia, Sarnica and Cæsarea.

Still this is only a list, not the smallest particulars are given; but, if trustworthy, we have Jersey, Guernsey, Sark and Alderney existing as separate islands in the 5th century. A century later, we have the island frequently mentioned in the Histories of the Saints who introduced Christianity among the inhabitants. In reading these accounts it should be always borne in mind that they were not reduced to writing until the † 10th century, indeed few of them assumed their present form before the 11th century, and, consequently, the geographical terms may be made to fit with what existed at the later period. Again, the lives are full of naive exaggerations‡ and absurd inventions and errors of dates, so that we must not put too much reliance on them. From them we gather that the islands existed then as separate islands exactly as they do now, even the details of the coast can scarcely have changed. For St. Helier, who died 558, embarked from Genest, a little port then, as now, on the bay of Mont St. Michel. He made his cell on a rock§ only joined to the main island by a natural causeway. Sark and Herm are mentioned as separate islands, and St. Samson sailed into the creek which divided Guernsey, at high water, from the Clos du Val, and built his church on the left, or south shore, of that ‖opening; while later the monks of St. Michael built their monastery on the north side of the same strait, and later were instrumental in getting erected a castle at the East end of it to protect them from invaders; so that the great subsidence of which we hear so constantly had certainly taken place before the 10th century, and, if it had occurred between the 4th and 10th it would inevitably have been claimed as one of the miracles of the great missionary bishops; its not being mentioned in any of the "Lives of the Saints," seems to me pretty conclusive proof that it had happened before the period to which they refer, that is before the 5th century; and this is certain if dependence can be placed on the "Itinerary of Antoninus."

A great subsidence has undoubtedly taken place not only in Guernsey, but in all the neighbouring parts of Europe. It will be generally conceded that the same phenomena which caused the change in one part of the

* Monthly Selection, p. 292. † Dupont, p. 28. ‡ Dupont, p. 24.
§ Dupont, p. 33. ‖ Duncan's History, p. 315.

district, affected the others also, so that we are engaged in solving a problem which has been most carefully studied by geologists in England and France. Changes of level are recognised by all these as taking place during this period in this part of the world, for example: Dawkins, in his "Early Man in Britain," says*: "This depression was not complete at the commencement of the prehistoric period, but continued until a later time." He mentions six different levels of the earth as shown by recent formations on the coast of Somersetshire, and, of these, the level of the submerged forests is second. It is not my intention to try to set out similar periods in Guernsey, or to discuss where our clays and ancient and raised beaches would be placed in such a series.

We have little evidence to show whether the land on our west coast was overwhelmed by a sudden catastrophe or by a gradual subsidence. Mr. Lukis propounds the theory that it was brought about by an irruption of the sea during furious gales at high water which broke through a former barrier of rock, silted material and pebbles, which then stretched from horn to horn of our western bays and preserved this low-lying woodland. This explanation would not be sufficient to account for similar catastrophes affecting all the western parts of the English and Bristol Channels, nor for the depth of water now covering the submerged areas. I do not doubt that such irruptions have occurred and caused local loss of land as in the bay of Mont St. Michel, but it does not meet the case we are considering.

As far as Guernsey is concerned we know that it was of much greater size when the peat was being deposited, and I have endeavoured to show that the peat was being formed at about the same era as that in which the cromlechs were still used for the purpose for which they were originally constructed. The fact that one of these ancient stone monuments was discovered at L'Islet, at a spot below the present sea-level, attests the greater elevation at that time. In the peat no iron implement has ever been discovered, the peat was therefore overwhelmed before the iron age; but here again we have the remarkable fact that †pieces of copper have been found with the animal and vegetable remains, the pottery, &c., in the peat. So that we have the peat of the lower beach being deposited after the commencement of the bronze age, and similar evidence to show that the cromlechs were at that same period still used as a place of sepulture. Guernsey evidence then puts the great subsidence in the

* P. 47. † L. B., in *Guernsey and Jersey Magazine*, p. 380.

bronze age, before the introduction of iron, that is long anterior to the historic period. Yet we have many writers trying to show that this great subsidence happened in comparatively modern times: A.D. 709 is a favourite date. In support of their statement, they assert the existence of title-deeds of land held on condition of the tenant supplying a plank to form a communication from Guernsey to Herm; also a gate-post supposed to exist on some rocks between Herm and Jethou and other testimony of a like character. Taking these two as specimens, it is to be noticed that the same legends exist in numerous localities. The plank is sufficient to maintain communication between Guernsey and the Clos du Val, between Guernsey and Herm, between Jersey and France, &c.; the post also is pointed out between Guernsey and the Hanois and on the Vale coast. The same kind of legend is common to many localities in France and England. This gate-post is quoted to show that the district in which it stood was agricultural land up to that period. Across this land, they say, a roadway may still be traced, and this Pierre Percée was cut and erected to carry a gate across the entrance to a field. The documents are never forthcoming, they can never be traced: then, to my mind, the gate-post proves too much; for, no gate-posts were to be found in the island for hundreds of years after 709. When the land was brought under cultivation it for ages remained unenclosed and was not divided into fields, and even when so divided it was by earthen banks, the entrance being left open or only guarded by a branch laid across it. The plank is equally apocryphal.

The most ancient inhabitants of our islands, though most certainly affected by the conquest of the neighbouring mainland by the Celtic tribes, remained few in number and lived in uneventful times up to the Roman conquest of Gaul, when they received crowds of refugees who scorned to submit to the Roman yoke. Here they remained in security and peace, for I consider that Guernsey was never occupied as a military station by the Romans. Alderney appears to have been much frequented by them; Roman pottery, bronze instruments and coins have been found in quantities. In Jersey, I find a square camp mentioned, which would point to a Roman occupation. But in Guernsey two or three spear-heads and a few coins are the only things connected with them, and these would be introduced by merchants, rarely of Roman nationality, who continued to use them for some centuries after the departure of the legions. But this state of security did not

last long, the northern nations commenced their attacks upon the shores of the Roman empire, and these became so frequent and successful that the imperial authorities found it necessary to establish a completely new system to defend the coast and appointed a special officer, under the title of Count of the Saxonshore, to repel these invaders. Carausius held this office in A.D. 287, but notwithstanding every effort, the pirates continued their attacks, and, no doubt, Guernsey and Jersey suffered severely from them. To this period I put the construction of the trenches cutting off Jerbourg peninsula from the main-island; similar earthworks are to be seen in Jersey, and, perhaps, that on the Hog's Back, in Sark, may also belong to this age. Such entrenchments were the common mode of defence of the Iberic and Celtic inhabitants of Britain and the adjacent parts of Gaul. Behind them the inhabitants would retreat and defend themselves from their adversaries, who for centuries merely plundered and sailed away. Probably also the cists which have been fonnd in various places in Guernsey were the burial places of leading men among the marauders who fell during their forays; for they contain *iron* swords, ornaments, and other objects proper to this period; they belong to a date before the introduction of Christianity for they are not found in connection with any religious structure, but in scattered situations, remote from such erections. One such was discovered, in 1818, in *St. Saviour's parish. "The grave was walled on each side. . . . No bones were found; ancient arms deposited on the left side of the tomb cause a strong presumption that some distinguished character had been entombed there many ages ago. A sabre in a steel scabbard, a small piece of brass, . . . the remains of a pike, or lance, the handle of which was cedar wood, cause the conjecture that they must have belonged to some Roman chief. . . . The body was completely decomposed. An ancient vase was discovered a few days after about 30 paces from this cist." Another such cist was found in a furze-brake, N.E. of Cobo church about 1890, it also contained not the slightest vestige of a body; an iron sword, and beads of various kinds were in the stone chamber. Another such, but double, the two cists forming a right angle, but, containing no remains, was found this year near Paradis, Vale. The steel scabbard and the lance of the St. Saviour's cist do not suggest to me a Roman warrior; but one of those called in English history Danes or Northmen. The ravages of these

* Jacob's Annals, pp. 6-7.

pirates became more and more severe; besides, they found these islands a safe place to which to retreat and repair their vessels; so the native population was almost destroyed, and we find when St. Helier first came to Jersey he estimates the number of islanders at only 40. But when these Danish and Norman marauders made permanent settlements on the mainland, both in Britain and France, and, in extending their territories, made war upon the original population, many of these once more took refuge in our islands, some even may have come over from Britain, and again the population increased; and, incited by the monks and encouraged by their presence and the building of the Vale Castle, they drove off the pirates and became a prosperous agricultural, fishing and trading, community. Such we find them when the authentic history of the island commences at the beginning of the eleventh century. In A.D. 1030 Guernsey was divided into parishes and, from this time onward, it is repeatedly mentioned in ancient deeds which mostly recite the gifts, by the Dukes of Normandy, of parts of the island to various barons or ecclesiastical dignitaries.

ADDITIONS TO THE SARK FLORA

SINCE THE PUBLICATION OF THE PROCEEDINGS OF 1896.

FURTHER REMARKS ON THE FLORA AND NOTES ON THE LIST OF 1896.

BY MR. G. T. DERRICK.

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THE list of Sark plants published in the *Transactions* of this Society for 1896 contained 240 species; in the additional list to June, 1897, 28 were added; since that date we have identified 69 species, so that our list now amounts to 337; and we consider that we have compiled a fairly complete flora of the island. As Professor Babington only recorded 247 species, ours is the most exhaustive that has been issued, and though we know that there will be some additions (*e.g.*, two or three species of *Salix*) we do not expect them to be numerous; but the fact that 35 species recorded by Professor Babington do not yet appear in our catalogue, shows that there is still room for search with a good prospect of making further additions.

We are very much indebted to Rev. W. Moyle Rogers, F.L.S., for the assistance he gave us. During his visit in July he was able to spare one day to Sark. He has kindly placed at our disposal the list of *Rubi* he identified on that occasion, besides which he has named some of the Roses and other plants in the list. His name will be found attached to the new ones he noticed and identified. I had the pleasure of accompanying him in his visit. We found brambles in great abundance, but one species, *Rubus macrophyllus*, v. *Schlechtendalii*, seemed to monopolise nearly the whole place, others had to be searched for and were less numerous than one expected. We could only examine one small district in our limited time; no doubt other localities will produce fresh species—indeed, one such has since been added to the list.

It will be noticed that five species of Roses are recorded; an unexpectedly great variety. On the day of Rev. Moyle Rogers' visit, the bush of *R. systyla* was in beautiful bloom on the cliff overlooking Dixcart Bay; it attracted our attention though we were on the opposite cliff. This species has not yet been found in Guernsey. The same gentleman observed *R. rubiginosa* in Guernsey; it appears, therefore, this year as an addition to our own flora, but it also occurs in

Sark, there being one bush near the Seigneurie. *R. micrantha* is the form which was supposed to be the speciality of Sark, but Mr. E. Marquand has noted a specimen in Fermain Bay lane. *R. canina*, v. *dumalis*, occurs in three or four localities, and *R. spinosissima* is frequent in every furze brake. It is remarkable that in Guernsey this plant should be confined to the lowlands, the neighbourhood of Grand Havre and l'Ancresse, while in Sark it abounds in furze brakes all over the plateau.

Our more complete knowledge of the subject justifies the statement that the flora of Great and Little Sark are practically identical. There is only one plant found in Little Sark which has not yet been found in the larger portion ; but several in our list do not occur in Little Sark, and are not likely to occur for want of suitable localities, while many introduced plants have not yet crossed the Coupée. So, too, its similarity to the Guernsey flora is maintained, *R. systyla* being the only new distinguishing plant. *Schleranthus annuus* is the only species which points to a former Jersey connection. It is fairly common in that island, and in Sark it is found as a common weed in cultivated ground and also on the cliffs ; so it appears to have been introduced from Jersey by the early colonists among the seeds they brought from that island, unless it is a survival from that far distant time when both Sark and Jersey were united to the continent.

It is remarkable that not a single one of the 15 Guernsey plants mentioned by Mr. E. Marquand as not occurring in Britain proper (*Transactions*, 1891, p. 131) has yet been found in Sark.

Of plants rare in Britain, having a census number less than 20 in the London Catalogue, 8th edition, the following 21 have been found in Sark :—*Lepigonum rupestre*, *Lavatera arborea*, *Erodium moschatum*, *Trifolium glomeratum*, *T. suffocatum*, *Lotus hispidus*, *L. angustissimus*, *Polycarpon tetraphyllum*, *Tillœa muscosa*, *Valerianella carinata*, *Petasites fragrans*, *Sibthorpia europea*, *Bartsia viscosa*, *Orobanche amethystea*, *Euphorbia portlandica*, *Romulea columnœ*, *Allium triquetrum*, *Scilla autumnalis*, *Juncus capitatus*, *Festuca uniglumis* and *Asplenium lanceolatum*, beside *Gunnera scabra*. Most of these are fairly common and plentifully distributed throughout the island. I was very pleased to be able to add one, viz. : *Asplenium ruta-muraria*, to the list of ferns.

I have been surprised at the absence of *Geranium robertianum* and *Draba verna*. There are many favourable localities, but as yet I have failed to obtain either of them.

I have looked well for Dodder, which has been noted by several recent visitors, and is in Babington's list, but I have not seen it this year or last; so with *Euphorbia amygdaloides* and *Inula crithmoides*, I expect these will be found, but not freely distributed. *Verbena officinalis* is in Babington; I picked it near La Forge years ago, but have failed to find it now. *Medicago denticulata* is in the old list; last year I found seeds of it in the wool of a dead sheep fallen from the cliffs, but I have not seen a living plant. Rev. Moyle Rogers has marked *Sedum acre* and *Parietaria officinalis* as falling under his notice; the first appears in Professor Babington's list. I have not seen either myself, and shall be pleased if any visitor to the island will bring me these or any other plant not yet in the list during the coming year.

ADDITIONS TO THE SARK FLORA

SINCE THE PUBLICATION OF THE PROCEEDINGS OF 1896, AND NOTES ON THE 1896 LIST.

NOTE.—The *Mentha aquatica*, L. = *M. hirsuta*, L.; the *Arctium lappa*, L. = *A. minor*, Schk.

CORRECTION.—For *Scirpus pauciflorus* substitute *Eleocharis palustris*, R. Br.

ADDITIONS.—Those made by Rev. Moyle Rogers are marked with his name.

Raphanus raphanistrum, *L.* La Forge, rare.
Tamarix gallica, *L.* Port du Moulin.
Hypericum Androsæmum, *L.* Dixcart Valley and Grêve de la Ville.
H. quadratum, *Stokes.* Marsh north of Le Fort.
H. pulchrum, *L.* Common.
Malva rotundifolia, *L.* Common.
Vicia angustifolia, *Roth.* Field near Dixcart.
Rubus leucostachys, *Rev. M. Rogers.* Furze brake near Dixcart lane.
R. Balfourianus, *Rev. M. Rogers.* (The Sark plant is typical.)
R. corylifolius, *Sm.* Genetière.
R. dumnoniensis, *Bab. Rev. M. Rogers.* Near Dixcart Hotel.
R. macrophyllus, *Rev. M. Rogers.* The prevailing bramble in Sark.
R. dumetorium, b. *diversifolius*, *Rev. M. Rogers.* Bank near Dixcart Hotel.
Rosa rubiginosa, *L.* Road north of Seigneurie.
R. systyla, *Rev. M. Rogers.* North cliff of Dixcart Bay.
Callitriche stagnalis, *Scop.* Dixcart Valley and near Seigneurie, &c.
Epilobium parviflorum, *Schreb.* Field north of Beau Séjour.
E. montanum, *L.* Roadside to Bel Air.
Æthusa cynapium, *L.* Near La Forge and Le Fort.
Dipsacus sylvestris, *L.* Field south of Dixcart.
Inula conyza, *D.C.* Les Laches Common.
Anthemis cotula, *L.* Capt. Henry's furze brake.
A. nobilis, *L.*
Cichorium intybus, *L.* Between Dixcart and Clos Buret.
Cnicus lanceolatus, *Hoffm.* Common.

Cnicus palustris, *Hoffm.* Common.
Hieracium umbellatum, *L.* Cliff near Creux Harbour.
Leontodon hispidus, *L.* Cliffs.
Calluna erica, *D.C.* Common.
Samolus valerandi, *L.* Dixcart Valley, Dos d'An, Trois Fontaines, &c.
Echium vulgare, *L.* Cliff-field east of Clos Buret.
Calystegia sepium, *R. Br.* Not very common. Collenette, Dixcart, Little Dixcart.
Solanum nigrum, *L.* Common.
Verbascum thapsus, *L.* La Moinerie.
V. nigrum. One plant near La Forge.
Mentha arvensis, *L.* Common.
Marrubium vulgare, *L.* Aval du Creux.
Stachys sylvatica, *L.* Dixcart.
Leonurus cardiaca, *L.* Aval du Creux.
Chenopodium murale, *L.* Rather frequent.
C. polyspermum, *L.* Rather frequent.
Atriplex patula, *c. angustifolia, Sm.* Roadside between the Mill and La Vareque, T. Royle; Dixcart, &c., G. T. D.
A. hastata, *L.* Roadside, Bel Air to Harbour, T. Royle; La Ville, Seigneurie, &c., G. T. D.
A. deltoidea, *Bab.* Rather frequent.
A. Babingtonii, *Woods.* Bel Air to Harbour.
Polygonum hydropiper, *L.* Rather common in marshy places.
Rumex obtusifolius, *L.* Frequent.
Euphorbia exigua, *L.* Field near Dixcart.
Juncus conglomeratus, *L.* Pond near Clos Buret.
J. supinus, *Mœnch,* with a viviparous form of the same. Marsh north of Le Fort.
Scirpus savii, *Seb. et Maur.* Trois Fontaines in Little Sark.
S. setaceus, *L.* Marsh north of Le Fort.
Carex divulsa, *Good.* Frequent.
C. pilulifera, *L.* Rather frequent.
Alopecurus geniculatus, *L.* Rev. M. Rogers.
Agrostis alba, *L.* Bel Air to Harbour.
A. vulgaris, b. *pumila, L.* Near Cliff-house.
Aira præcox, *L.* Near Cliff-house.
Holcus mollis, *L.* Rather common.
Sieglingia decumbens, *Bernh.* Frequent.
Glyceria maritima, *Wahl.* Rev. M. Rogers.
Festuca sciuroides, *Roth.* Rev. M. Rogers.
F. ovina, c. *glauca, Sm.* Near Cliff-house.
F. aubra, b. *arenaria, Osb.* Roadside to Bel Air.
Bromus mollis, *L.* Roadside to Bel Air.
Brachypodium sylvaticum, *Roem et Schult.* Copse in Dixcart Valley.
Lolium perenne, *L.* Frequent.
Agropyron repens, *Beauv.* Rev. M. Rogers.
Asplenium ruta-muraria, *L.* La Collenette.

THE SUNSHINE OF GUERNSEY FOR THE YEAR 1897.

BY MR. A. COLLENETTE, F.C.S.

As will be seen below, 1897 has proved to be an average year as regards sunshine, differing as it does from the average (of four years) by 18 hours only.

A comparison between two stations in Guernsey has been made possible through the kindness of Dr. F. Carey, who has kindly given me an opportunity of comparing his results with my own. As I am using my own observations and four years average only, in discussing this year's results, I need only say that Dr. Carey's results are slightly below my average, but probably, as his results have been above mine in other years, the differences are referable to "personal equation" quite as much as to actual differences of sunshine. Taking the whole period of both stations the difference is but slight, and, therefore, I feel that the figures given below can be fairly used to represent Guernsey sunshine. To Dr. Carey's kindness in passing on to me his copies of the "Weekly Weather Report," I am indebted for the power to compare Guernsey with Jersey and with six English stations. Owing to the fact that some of the monthly totals in this paper have been extracted from the "Weekly Reports," and some (the three last months of the year, owing to the monthly summaries not having arrived in time for this paper) from the "Monthly Summary," it is possible that the totals of the months so extracted may not show the exact figures to be printed in the coming "Summaries," but this inexactness will not interfere with the comparison, the differences being small and the total for the year correct.

I first give a table showing the results for 1897 at Beaulieu, Guernsey.

GUERNSEY SUNSHINE AT BEAULIEU, HAUTEVILLE, 1897.

TABLE I.

Months.	Hours.	Above or Below the Average	Hours Accumulative.	Sunless Days.	% of Possible.	Compared with Average		
						Four Years' Average	Above	Below
January	42·44	—	42·44	9	16	49·39	—	6·95
February	63·76	—	106·20	11	23	81·59	—	17·83
March	146·59	—	252·79	1	39	151·81	—	5·22
April	163·29	—	416·08	3	37	187·30	—	24·01
May	239·85	—	655·93	2	46	272·37	—	32·52
June	269·29	—	925·22	1	54	274·48	—	5·19
July	305·62	+	1230·84	0	62	256·50	49·12	—
August	239·19	+	1470·03	3	54	226·32	2·87	—
September	142·23	—	1612·26	5	37	168·78	—	26·55
October	120·74	+	1733·00	5	36	108·11	12·63	—
November	66·30	—	1799·30	6	24	73·05	—	6·75
December	75·15	+	1874·45	7	29	43·90	31·25	—
The Year	1874·45	—	1874·45	53	42	1892·10	—	17·65

The sunniest day of the year was June 11th, when 15 hours were recorded, being 93% of the possible sunshine.

The sunniest week gave 80·3 hours.

The sunniest month gave 305·6 hours.

I have extracted from the "Weekly Report" the sunniest month in eight other places. I give the comparison in Table 2.

THE SUNNIEST MONTH, &c., COMPARED.

TABLE II.

Station.	Month.	Hours.	Total for 1897.
Guernsey	July	305·6	1874·4
Jersey	June	258·3	1781·7
London	July	250·0	1373·6
Oxford	July	254·6	1565·8
Hastings	July	270·0	1784·8
Southampton	July	266·7	1724·3
Torquay	May	247·8	—
Plymouth	May	259·4	1638·5
Scilly Isles, St. Mary	May	276·3	1652·0

GUERNSEY SUNSHINE FOR 1897

Compared with the average of four years, with each year, and with the possible.

TABLE III.

Months.	1894.		1895.		1896.		1897.		Average of the 4 years.		Possible Sunshine
	Hours.	Sunless Days.	Hours.	Sunless Days.	Hours.	Sunless Days.	Hours.	Sunless Days.	Hours.	Sunless Days.	Hours.
January	64·8	10	63·3	8	34·9	15	42·4	9	49·4	10	269·2
February	87·0	6	111·3	6	98·9	7	63·8	11	81·5	7	294·4
March	196·7	0	168·1	2	110·1	7	146·6	1	151·8	2	367·6
April	191·7	0	191·2	1	171·4	3	163·3	3	187·3	2	408·6
May.....	230·0	2	309·7	0	307·0	0	239·8	2	272·4	1	472·8
June	215·3	0	294·5	0	301·9	0	269·3	1	274·5	0	481·3
July.....	187·2	2	254·6	0	277·7	0	305·6	0	255·0	0	484·5
August	186·4	3	244·8	0	234·2	1	239·2	3	227·0	2	442·6
September	155·2	1	269·4	0	107·3	3	142·2	5	168·8	2	376·7
October	91·8	4	91·4	5	85·2	5	120·7	5	108·1	5	331·4
November	74·5	10	62·1	9	69·0	8	66·3	6	73·1	8	271·1
December	44·2	11	18·0	19	38·1	12	75·1	7	43·9	12	255·1
The Year..	1724·4	49	2068·9	50	1825·5	61	1874·4	53	1892·8	53	4454·8

GUERNSEY SUNSHINE FOR 1897.

The percentage of the possible sunshine compared.

TABLE IV.

Months.	1894.	1895.	1896.	1897.	Average.	Possible.
January	24	23	13	16	18	100
February	29	37	34	23	27	100
March	53	45	30	39	41	100
April	46	46	41	37	45	100
May	48	65	65	46	57	100
June	44	61	64	54	57	100
July	38	52	57	62	52	100
August	42	55	53	54	51	100
September	41	69	28	37	45	100
October.....	27	24	25	36	32	100
November	27	23	25	24	25	100
December	17	7	15	29	17	100
The Year....	38	46	41	38	42	100

It is curious to notice that in January and May, 1897, the sunshine recorded is above the amount experienced in Guernsey and Jersey at all the English stations. This is evidently unusual (see Table 5), but the results for the year bring out the fact that, with the exception of Hastings, the English stations given in the comparison fall considerably below both the Channel Islands.

One peculiarity of Guernsey is the paucity of sunless days in the spring and summer ; in 1894, the months March to September inclusive, gave but 8 sunless days ; 1895, 3 ; 1896, 14 ; 1897, 15. The average of these months for the four years gives but 9 sunless days out of the 214 days included. Though not shown in the tables this largely differs from the number for the English stations. In Table 3 it will be noticed that in the four years discussed there were twelve months without a sunless day ; there were five months with only one sunless day ; five months with only two sunless days ; five months with only three sunless days ; one with four ; four with five. That is 32 months with less than five sunless days in out of the 48 discussed.

SUNSHINE OF GUERNSEY COMPARED WITH JERSEY, SCILLY ISLANDS AND ENGLISH STATIONS.

TABLE 5.

Months.	Guernsey.		Jersey.		Oxford.		Southamp'n		Hastings.		Plymouth.		London.		St.Mary,S.I.		Guernsey.
	Hours.	% of Possible.	Hours.	% of Possible.	Hours.	% of Possible.	Hours.	% of Possible.	Hours.	% of Possible.	Hours.	% of Possible.	Hours.	% of Possible.	Hours.	% of Possible.	Over Average of the English Stations. Hours.
January	42·4	16	38·5	16	43·2	18	46·1	16	48·9	19	53·1	20	17·9	7	66·5	25	—
February	63·8	23	60·1	21	31·9	12	36·8	13	46·9	17	39·5	14	28·0	10	47·4	17	15·4
March	146·6	39	111·3	33	119·1	33	120·8	33	130·7	36	102·7	28	97·9	27	114·0	31	32·4
April	163·3	37	144·0	35	138·0	33	155·4	38	164·2	40	124·6	30	121·6	30	105·4	26	30·1
May	239·9	46	229·0	49	238·7	50	250·0	52	254·9	53	259·4	55	245·3	51	276·3	58	—
June	269·3	54	258·3	54	183·1	37	198·7	41	204·4	42	239·7	50	169·7	34	238·1	49	63·7
July	305·6	62	254·8	53	254·6	52	266·7	54	270·2	55	231·6	48	250·6	51	220·6	45	56·6
August	239·2	54	195·9	43	205·9	46	227·7	51	218·3	49	225·6	51	208·1	47	231·2	52	19·8
September	142·2	37	147·5	47	133·4	36	155·4	42	138·8	37	139·7	37	106·9	29	132·0	35	7·9
October	120 7	36	147·7	44	114·6	34	135·7	40	154·5	48	97·8	31	83·4	23	91·7	30	7·6
November	66·3	24	99·5	34	53·4	21	59·6	24	74·1	28	46·8	19	20·0	8	61·4	24	13·7
December	75·1	29	95·1	36	49·9	22	71·4	30	78·9	33	78·0	32	24·2	11	67·4	27	13·5
The Year	1874·4	42	1781·7	39	1565·8	33	1724·3	36	1784·8	37	1638·5	34	1373·6	27	1652·0	35	251·3

THE INSECTS OF ALDERNEY.

BY MR. W. A. LUFF.

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THE insect fauna of Alderney is very limited. The small size of the island, only four miles long from East to West and scarcely a mile and a-half in the broadest part; the almost total want of hedgerows and very few trees will account for the absence of many species which are common in Jersey and Guernsey. From its proximity to the French coast, however (Cape La Hague, the nearest point, being only about ten miles distant) we may expect some rare species to turn up from time to time.

Owing to its isolated position, Alderney has been but little visited by naturalists. The first mention made of any Alderney insect is in Jacob's "Annals of some of the British Norman Isles," published in 1830, where a long description is given of the leaf-cutting bee, which makes its burrows in the sand-banks on the Butes and the little island of Burhou. The bee is here named *Apis centuncularis*, but I think it is more likely to be *Megachile argentata*, Fab., which also makes its honey barrels in the sands of L'Ancresse Common in Guernsey, or *M. maritima*, which has been taken in both Jersey and Guernsey. The next allusion to Alderney insects is in the *Zoologist* for 1864, in which that well-known Entomologist, the late Francis Walker, F.L.S., describes his visit to the island in July, 1860, but he only mentions one spider, viz., *Thomisus bifasciatus*; his son, however, the Rev. F. A. Walker, D.D., F.L.S., in the *Entomologist* for 1888, mentions the names of two rare Hawk moths, which were observed in Alderney on that occasion.

In the *Entomologist* for 1874, I published a list of 42 species of Lepidoptera captured by myself in Alderney from the 23rd to 30th of June, 1873.

The Rev. F. A. Walker gives an account in the *Entomologist* for August of the insects he observed in Alderney during a three months' sojourn in the island, from April to June of the present year.

The following list is only put forward as a preliminary one and is the result of three excursions to the island, viz.,

from June 23rd to 30th, 1873 ; from August 4th to 9th, 1892 ; and September 23rd of the present year. To these I have added the species mentioned by the Rev. F. A. Walker. Butterflies, as a rule, appear to be scarce, but on the occasion of my visit in 1892, I found two species, viz., *Colias Edusa* (the Clouded Yellow) and *Pyrameis cardui* (the Painted Lady), swarming all over the island. I have never seen so many of these species together before or since.

The following species, mentioned on the list, have not hitherto been taken in Guernsey.

Chærocampa porcellus.
Pelurga comitata.
Doratura stylata.
Podops inunctus.
Salda Cocksii.
Berytus signoreti.
Derephysia foliacea.
Tiphia femorata.
Pompilus unicolor.
Odynerus quadratus.
P. chalybeatus.

LIST OF ALDERNEY INSECTS.

LEPIDOPTERA.

RHOPALOCERA (Butterflies).

PIERIDÆ.

Pieris brassicæ. Two specimens, June, 1873. Fairly common in 1897. Rev. F. A. Walker.

P. rapæ. Very common in June, 1873, and in August, 1892.

Colias edusa. One specimen sent me in 1868, when they were common. They were again extremely abundant in 1892.

NYMPHALIDÆ.

Vanessa urticæ. Saw one specimen on June 30th, 1873. Two seen by the Rev. F. A. Walker in 1897.

V. atalanta. Captured specimens in 1873 and in 1892. (Five or six seen in 1897. Rev. F. A. W.)

V. cardui. Extremely abundant, especially on thistle flowers, August, 1892.

Melitæa cinxia. Rather plentiful, but only in one locality, Trois Vaux Valley, on the west coast of the island. In June, 1873, they had been out some time and were much worn.

SATYRIDÆ.

Pyrarga megæra. Two specimens captured in 1873 ; one of these has a beautiful bi-pupilled eye spot.

Epinephele janira. Extremely abundant.

LYCÆNIDÆ.

Lycæna icarus. Very abundant.

Polyommatus phlæas. Several taken in 1873.

HETEROCERA (Moths).

SPHINGIDÆ.

Acherontia atropos. Common in some seasons.

Sphinx convolvuli. Received a specimen of the perfect insect from Alderney in 1868, also a larva in 1875, which was described by Mr. Edward Newman in the *Entomologist* for November, 1875.

Chærocampa porcellus. Mentioned by the Rev. F. A. Walker (*Entomologist*, May, 1888) as being captured in Alderney on July 9th, 1860.

Deilephila euphorbiæ. One solitary wing of this species was picked up on a common by the Rev. F. A. Walker, July 9th, 1860 (*Entomologist*, May, 1888).

Macroglossa stellatarum. Two specimens captured, June, 1873 (1897, Rev. F. A. W.)

ZYGÆNIDÆ.

Zygæna trifolii. Not uncommon on the cliffs.

ARCTIIDÆ.

Euchelia jacobææ. Abundant.

Arctia caja. Took four specimens, June, 1873.

A. villica. Captured one, June, 1873.

A. fuliginosa. Not uncommon, 1873 and 1892.

A. lubricipeda. Very common.

A. menthrasti. Took several, June, 1873.

BOMBYCIDÆ.

Liparis auriflua. Found a larva feeding on hawthorn, June, 1873.

Bombyx trifolii. The larvæ were common all around the coast, and I took fifty specimens in about two hours, June, 1873.

GEOMETRIDÆ.

Rumia cratægata. Not uncommon.

Gnophos obscurata. Took one specimen, August, 1892.

Acidalia subsericeata. Several on the west coast, June, 1873.

Aspilates citraria. Common on the cliffs, June, 1873, and August, 1892.

Abraxas grossulariata. Pupæ abundant on gooseberry and currant bushes, June, 1873.

Emmelesia decolorata. Common, June, 1873.

Melanthia ocellata. One, June, 1873.

Coremia ferrugata. Captured three specimens, August, 1892.

Camptogramma bilineata. Extremely abundant.

Cidaria russata. Not uncommon.

Pelurga comitata. One fine specimen, June, 1873.

Eubolia mensuraria. Took one specimen, August, 1892.

E. peribolata. This pretty non-British geometer was not uncommon amongst furze on the cliffs, August, 1892.

NOCTUÆ.

Bryophila perla. Common, August, 1892.

Xylophasia polyodon. Several at sugar, June, 1873.

Mamestra brassicæ. Larvæ abundant, June, 1873.

Apamea oculea. One, June, 1873.

Miana strigilis. Two at sugar, June, 1873.

Agrotis segetum. One, June, 1873.

Tryphæna pronuba. Common.

Dianthœcia conspersa. Found several larvæ feeding on Ragged Robin (*Lychnis flos-cuculi*), June, 1873.

Phlogophora meticulosa. Common.

Euplexia lucipara. Several captured, June, 1873.

Cucullia umbratica. Found several resting on stones and gate-posts, 1873.

Plusia gamma. Common in June, 1873; extremely abundant in August, 1892.

PYRALIDES.

Aglossa pinguinalis. One in an out-house, August, 1892.

Botys verticalis. Common, August, 1892.

B. urticalis. One specimen, August, 1892.

Endotricha flammealis. One, September, 1897.

Stenopteryx hybridalis. Common.

TORTRICES.

Lozotæna rosana. One, August, 1892.

Aspis udmanniana. Common.

PTEROPHORI.

Aciptilia pentadactyla. Recorded by the Rev. F. A. Walker.

HEMIPTERA-HETEROPTERA.

Ælia acuminata, *Lin.* Three taken by sweeping on the cliffs, August 5th, 1892; one, September, 1897.

Carpocoris baccarum, *Lin.* Very common.

Piezodorus incarnatus, *Germ.* August, 1892; September, 1897.

Picromerus bidens, *Lin.* Two specimens on the cliffs near the Blaye, August 10th, 1892.

Podops inunctus, *Fab.* One specimen found under a stone on cliffs, September 23rd, 1897. Has not been recorded for Guernsey.

Stenocephalus agilis, *Scop.* One near Crabby Bay, August 9th, 1892.

Berytus signoreti. Common by sweeping grass on Longy Common, August, 1892. This species has not yet been found in Guernsey.

Metacanthus punctipes, *Germ.* Very common on its food plant *Ononis arvensis.*

Ischnorhynchus geminatus, *Fieb.* Several specimens on heather on the cliffs, August, 1892.

Henestaris laticeps, *Curt.* Two near Platte Saline Bay, August, 1892.

Aphanus quadratus, *Fab.* Not uncommon.

A. lynceus, *Fab.* One specimen by sweeping on cliffs, August, 1892.

Emblethis verbasci, *Fab.* Common on the cliffs, August, 1892.

Derephysia foliacea. One specimen under a stone on Longy Common, August 5th, 1892. Not on the Guernsey list.

Notochilus contractus, *H.S.* One specimen taken in Trois Vaux Valley, August 7th, 1892.

Salda cocksii. One specimen near small stream on cliffs, September 23rd, 1897. Has not been taken in Guernsey.

Hydrometra stagnorum, *Lin.* Common in small stream on cliffs near Blaye, June, 1892; September 23rd, 1897.

Miris calcaratus. Not uncommon.

Megaloceræa ruficornis, *Fourc.* One specimen, August 7th, 1892.

Triphelps minutus, *Lin.* Two specimens.

Phytocoris ulmi. Several.

Calicoris bipunctatus, *Fab.* Abundant in fields.

C. chenopodii, *Fall.* Two specimens taken near Trois Vaux Valley, August 8th, 1892.

Orthotylus saltator. Took five specimens by sweeping on the cliffs, August, 1892.
O. marginalis, *Reut.* Two specimens taken near Essex Castle, August, 1892.
Hypsitylis bicolor. One by sweeping on cliffs, August, 1892.

HEMIPTERA-HOMOPTERA.

CICADÆ.

Philænus spumarius, *Lin.* Abundant.
P. lineatus, *Lin.* Swept several specimens near cliffs.
Euacanthus interruptus, *Lin.* Common in Trois Vue Valley.
Thamnotettix dilutior, *Kbm.* Two specimens, September 23rd, 1897.
Chlorita flavescens, *Fab.* Not uncommon.
Eupteryx sp. ? Several specimens.

COCCIDÆ.

Ripersia Tomlinii, *Newstead.* Abundant in the nests of a species of ant, *Lasius alienus*, under stones near the cliffs.

NEUROPTERA.

PSEUDO-NEUROPTERA.

PSOCIDÆ.

Cæcilius flavidus. One specimen by beating, August, 1892.
Eliposcus flaviceps. Common.

NEUROPTERA-PLANIPENNIA.

Chrysopa vulgaris, *Schn.* Took several specimens in different parts of the island. One is an unusual variety with dark antennæ, brown stigma, &c.

TRICHOPTERA.

Diplectronia felix, *McLach.* Two specimens, Trois Vaux Valley, August, 1892.
Beræa maurus, *Curt.* Common in small streams on cliffs.
Tinodes assimilis, *McLach.* One in Trois Vaux Valley, August, 1892.
Agapetes fuscipes, *Curt.* Common near small cliff streams, August, 1892.

No Dragon-flies *(Adonata)* were captured, but the Rev. F. A. Walker saw one specimen on the wing which he thought was *Libellula quadrimaculata.*

ORTHOPTERA.

EUPLEXOPTERA.

Forficula auricularia, *L.* Very common.

CURSORIA.

Ectobia Panzeri, *Steph.* Not uncommon on the cliffs.
E. livida, *Fab.* Common under stones on the cliffs, June, 1873.

SALTATORIA.

Platycleis grisea, *Fab.* Took one specimen on the cliffs, September 23rd, 1897.
Stenobothrus bicolor, *Charp.* Abundant everywhere.

COLEOPTERA.

Nebria brevicollis, *F.* One specimen, Longy Common.
Harpalus consentaneus, *Dej.* Common under stones.
Zabrus gibbus, *F.* One specimen under stone on the Blaye.
Pterostichus mandidus, *F.* Common.
Amara lucida, *Duft.* One on cliffs.
A. apricaria, *Sturm.* Common.
Calathus cisteloides, *Panz.* Common.
C. flavipes, *Fourc.* One on Longy Common.
C. melano-cephalus, *L.* Common under stones near the coast.
Anchomenus albipes, *F.* One in Trois Vaux Valley, August, 1892.
Metabletus foveola, *Gyll.* Common.
Anacæa limbata, *F.* One.
Sphæridium bipustulatum, *Fab.* One.
Pæderus littoralis, *Grav.* One.
Stenus similis, *Herbst.* Two on cliffs, August, 1892.
Athous longicollis, *Ol.* On cliffs, August, 1892. One specimen.
Telephorus fulvus, *Scop.* Very common.
Psilotrix nobile, *Ill.* Common by sweeping on the cliffs.
Anobium domesticum, *Four.* Common in houses.
Cryptocephalus vittatus, *F.* Two specimens taken on the cliffs, August, 1892, by sweeping.
Timarcha violaceonigra, *De G.* Common.
Phytodecta olivacea, *Forst.* One on the cliffs on broom, 1897.
Prasocuris junci, *Brahm.* Several near small stream on cliffs.
Sphæroderma testaceum, *F.* One on cliffs.
Opatrum sabulosum, *Gyll.* Common in sandy places near the coast.
Cteniopus sulphureus, *L.* Common on the cliffs.
Sub-coccinella globosa, *Schneid.* Several on the cliffs.
Coccinella 11 punctata, *L.* One.
C. 7 punctata, *L.* Common.
Halyzia 22 punctata, *L.* Several by sweeping.
Rhizobius litura, *F.* Common on the cliffs.
Aphodius fossor, *L.* Common.
A. hæmorrhoidalis, *L.* One on Longy Common.
A. fimetarius, *L.* Very common.
A. punctato-sulcatus, *Sturm.* One specimen taken.
A. rufipes, *L.* One.
Geotrupes sylvaticus, *Panz.* One.
G. vernalis, *L.* Caught several specimens, August.
Rhizotrogus solstitialis, *L.* One.
Melolontha vulgaris, *F.* Captured by Rev. F. A. Walker, 1897.
Meloe sp.? (Oil Beetle). Taken by Rev. F. A. Walker, 1897.
Apion ulicis, *Forst.* Common on furze.
A. miniatum, *Germ.* One.
A. rufirostri, *F.* One on cliffs.
A. lævicolle, *Kirby.* One.

Otiorrhynchus rugifrons, *Gyll.* Common.
Trachyphlæus scaber, *L.* One, Longy Common.
Sitones suturalis, *Steph.* One.
Hypera punctata, *F.* One, Longy Common.
H. pollox, *F.* One.
H. trilineata, *Marsh.*
H. nigrostre, *F.* Not uncommon.
Orchestes alni, *L.* Three.
O. alni. Var. *ferrugineus.* One.
Mecinus pyrastii, *Herbst.* One.
Ceuthorrhynchidius troglodytes. One

HYMENOPTERA.

HETEROGYNA.

FORMICIDÆ.

Lasius niger, *Linn.* Race *Alienus.* Common, especially on the cliffs.
L. flavus, *De Geer.* Common under stones near coast.

FOSSORES.

SCOLIIDÆ.

Tiphia femorata, *Fab.* One specimen captured at Platte Saline, August 6th, 1892.

POMPILIDÆ.

Pompilus chalybeatus, *Schiödte.* One on cliffs, August 5th, 1892.

SPHEGIDÆ.

Ammophila sabulosa, *Linn.* Several on Longy Common.

MELLINIDÆ.

Cerceris labiata, *Fab.* On the cliffs, August 6th, 1892.

VESPIDÆ.

EUMENIDÆ.

Odynerus pictus, *Curt.* One specimen captured August 4th, 1892.
O. quadratus, *Sm.* One specimen taken by the Rev. F. A. Walker, 1897.

APIDÆ.

ANDRENIDÆ.

Halictus albipes, *Kirb.* One, August, 1892.
Megachile sp.? The Leaf-cutter Bee, making its honey-barrels in the sand-banks, is probably *Megachile argentata.*
Andrena nigro-ænea, *Kirb.* Rev. F. A. Walker.
A. cineraria, *Linn.* Rev. F. A. Walker, 1897.
Osmia rufa? Rev. F. A. Walker, 1897.
Bombus hortorum, *Linn.* One specimen taken, August, 1892.
B. lapidarius, *Linn.* Common. Rev. F. A. Walker.
B. terrestris, *Linn.* Abundant.

CHRYSIDIDÆ.

Chrysis ignita, *Linn.* Two captured, several others seen, Rev. F. A. Walker, 1897.

TETHREDINÆ.

Allantus arcuatus, *Forst.* A few seen by the Rev. F. A. Walker in 1897.

DIPTERA.

MYCETOPHILIDÆ.

Sciara Thomæ, *L.* One on cliffs, August 6th, 1892.

BIBIONIDÆ.

Bibio Marci, *L.* (St. Mark's fly). Rev. F. A. Walker.

PTYCHOPTERIDÆ.

Ptychoptera albimana, *F.* One, Longy Common, September 23rd, 1897.

TIPULIDÆ.

Tipula gigantea, *Schrk.* Rev. F. A. Walker.
T. oleracea, *L.* Common.

STRATIOMYNÆ.

Chloromyia formosa, *Scop.* Rev. F. A. Walker.

ASILIDÆ.

Asilus crabroniformis, *L.* I captured several specimens of this fine species near Trois Vaux Valley, August, 1892.

BOMBYLIDÆ.

Anthrax paniscus, *Rossi.* Abundant on August 6th, 1892, near Platte Saline Bay.

THEREVIDÆ.

Thereva annulata, *F.* One near Longy Bay.

EMPIDÆ.

Empis livida, *L.* Two specimens on cliffs, August, 1892.

SYRPHIDÆ.

Eristalis tenax, *L.* Common.
E. arbustorum, *L.* Rev. F. A. Walker.
Chrysotoxum festivum, *L.* Not uncommon.
Catabomba pyrastri, *L.* Rev. F. A. Walker.

SARCOPHAGIDÆ.

Sarcophaga hæmorrhoidalis. Rev. F. A. Walker.

MUSCIDÆ.

Lucilia cæsar, *L.* Common.
Calliphora vomitaria, *L.* Rev. F. A. Walker.
Musca domestica, *L.* Common.
M. corvina, *F.* One specimen.

ANTHOMYIDÆ.

Polietes lardaria, *F.* Common, September 23rd, 1897.
Spilogaster communis, *Dsv.* Common, Trois Vaux Valley, August, 1892.

CORDYLURIDÆ.

Scatophaga stercoraria, *L.* Rev. F. A. Walker.

TRYPETIDÆ.

Acidia heraclei, *L.* Several specimens, August, 1892.

CHLOROPIDÆ.

Meromyza pratorum, *Mg.* Not uncommon.

OUR INSULAR DIALECT.

BY MR. J. LE M. BOUGOURD.

BEING proud of my native isle, and of much that belongs to it, I often feel sorry that our good old local tongue is practically dying out, offering but little, if any, resistance to the inroads of the English language.

The patriotic interest in it (our native tongue) is not great, excepting among a few, of whom some are strangers, for example, Mr. J. L. Pitts, F.S.A., who has taken as much interest in it as if he were an islander; an American professor and a young gentleman who, about ten years ago, spent considerable time in the island studying and investigating it. In England and elsewhere societies exist for the study of old dialects, and ours is a very interesting one, for it belongs to a family which possesses unusual peculiarities, from a philological and literary point of view.

At first some difficulty is experienced in studying these dialects from the varied spelling to be met with, for up to the 10th century no rules for spelling existed, each writer adopting the method best suited to the locality in which he resided, the spelling being practically phonetic.

Anyone with a fair knowledge of Parisian French will, with practice, soon not only read but understand the old forms, and in following the Romance writers, will observe the gradual change, till we arrive at what we now call classical French, which is only a modified and embellished dialect of the same language or root as Norman. That is the *langue d'oïl.*

We Channel Islanders inherit rather peculiar characteristics, these islands being relics of the ancient Duchy of Normandy, which was part of Neustria, and which, in A.D. 511, was given to Clotaire by his father, Clovis, but was again united to France by Charles the Bald.

In 876 the Normans commenced their piratical incursions, continually devastating it, till, in A.D. 912, their chief, Rollo, succeeded in getting it ceded to him by Charles the Simple, whose daughter, Gillon, he married.

It continued a duchy till William the Conqueror (so called) invaded England in A.D. 1066, when it became a province of England till, in A.D. 1204, Phillip II. of France reconquered it, with the exception of the Channel Islands, which remained loyal to the British Crown.

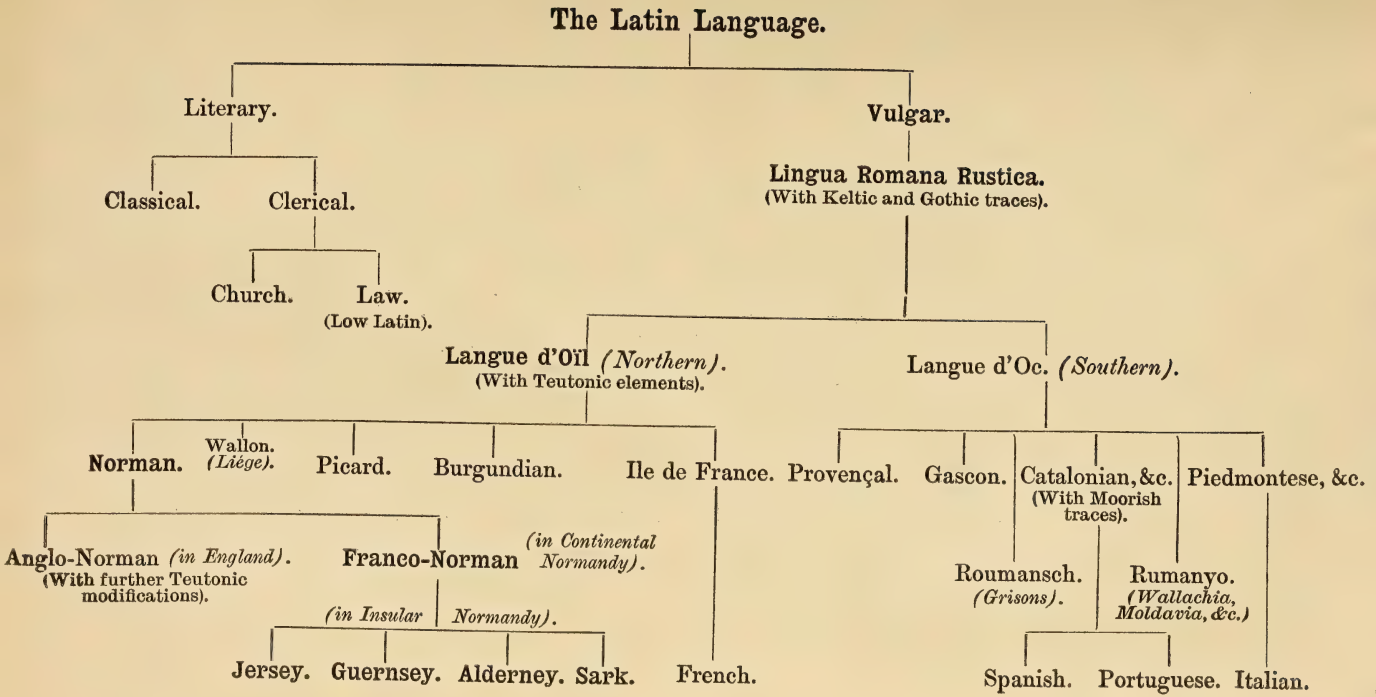
Geographically we are, undoubtedly, French, being almost wholly inside of a straight line from Cape La Hague to Cape Ushant, and consequently in the Gulf of Avranche; yet we are politically and practically English, and Her Majesty Queen Victoria's most loyal subjects, rejecting scornfully any insinuation of being French.

We enjoy a constitution of our own, not quite perfect perhaps, but certainly not as faulty as self-styled Uitlanders pronounce it and would have us believe it to be.

Of our dialect or patois we have no occasion to be ashamed, for we can trace it to a noble family of great age; it has been preserved to us for some hundreds of years in almost its original form, being one of the principal Romance languages. It is rather surprising that it should have been so preserved, seeing the many vicissitudes to which it has been subjected, and yet it may be that these very changes have contributed to its preservation.

When I say our dialect, do not suppose that I mean the jargon we hear on the east coast or the neighbourhood of the town, but that which is spoken by the islanders living in the interior or recesses of the island, who seldom, if ever, visit the haunts of advanced civilisation and have not had the benefits of high-class education.

It is under such circumstances that ancient languages are preserved in their purity, *e.g.*, Gaelic, Welsh, Breton and Basque.


The Latin Language.
Literary.
Vulgar.
Classical.
Clerical.
Lingua Romana Rustica.
(With Keltic and Gothic traces).
Church.
Law.
(Low Latin).
Langue d'Oïl (Northern).
(With Teutonic elements).
Langue d'Oc. (Southern).
Norman.
Wallon.
(Liége).
Picard.
Burgundian.
Ile de France.
Provençal.
Gascon.
Catalonian, &c.
(With Moorish traces).
Piedmontese, &c.
Anglo-Norman (in England).
(With further Teutonic modifications).
Franco-Norman (in Continental Normandy).
(in Insular Normandy).
Roumansch.
(Grisons).
Rumanyo.
(Wallachia, Moldavia, &c.)
Jersey.
Guernsey.
Alderney.
Sark.
French.
Spanish.
Portuguese.
Italian.

The accompanying genealogical tree shows very faithfully the Norman pedigree ; it is copied from the introduction to the 2nd edition of "Patois Poems," by Mr. J. L. Pitts, F.S.A.

Noble as our dialect is, I cannot claim for it that antiquity and honour which is claimed by a certain Rev. —. Harris for the Welsh tongue, which he asserts is that which was spoken in Paradise by Adam and Eve.

From Mr. Pitts I also gather that we have little or no local literature dating earlier than the present century, while Welsh dates from the 5th century or earlier.

Our patois, as you see by the annexed tree, belongs to the Romance languages, so called from their having come more or less directly from the Latin, which, after the conquest of Gaul by the Romans in the 1st century, overspread the country, but which in time was itself modified very considerably by the natives.

While the Romans were fighting they preserved their own tongue, but settling peacefully and becoming agriculturists they soon adopted local words, corrupting their own tongue in various ways and thereby developing a new language, which eventually divided itself into two main branches, the Langue d'Oc in the south and the Langue d'Oïl in the north ; a line from La Rochelle to Grenoble approximately representing the frontier between them.

These divisions did not take practical form till the 7th century, but Littré, in his "Histoire de la Langue Française," tells us that no literature of so early a date has been preserved, though Benoit alludes to some satirical verses written in Langue d'Oïl about a Count of Poictiers who conducted himself dishonourably in a skirmish with Norman pirates.

Saintsbury, in his short history of French literature, gives us also the Strasburg Oath taken in A.D. 842.

Littré states that only three documents exist or can be traced in this language from 1001 to 1100 :—"Eulalie," "A Poem on the Passion," and "The Life of St. Leger."

The 11th and 12th centuries appear to be the classical age of our tongue, Froissart closing its career in the 14th century with his "Chronicles of the Wars between England and France."

All this time the Isle de France branch had been in the background, but in the 14th century it gained the ascendancy through the conquest of the provinces by the Capets, so that, in 1515, Francis I. declared it the language of the court and country, although to this day only the lesser half of France

uses it; the various dialectic branches of the Langue d'Oc prevailing in the south, and those of the Langue d'Oïl, more or less modified by Parisian French, prevailing in the north.

You will see by this that both Norman and Parisian French have been of very slow growth, and were practically 900 years in formation; French has undergone many modifications and embellishments, which render it what it is now.

The Langue d'Oïl is not so rich and melodious as the Langue d'Oc, but it is more crisp, fresh and vigorous, and in it the Trouvères wrote their Romances, which were sung by the Troubadours who accompanied them.

In the 9th century the conquerors of Neustria ceased to use their original Scandinavian tongue, and adopted with many modifications a form of French, henceforth called Norman, and this Duke William and his followers carried into England, where it was so modified as to become a true Anglo-Norman branch of this stock, and this was commonly used by the aristocracy till the reign of Henry III., 1258, when it was discontinued, excepting for law purposes, till 1600. Though abandoned by the aristocracy, it must still have been in occasional use, for Edward III. abolished it by Act of Parliament in 1362 as an unknown tongue. French is still used in England for giving royal assent to Parliamentary documents.

EXAMPLES.

*LES DUCS DE NORMANDIE.	THE DUKES OF NORMANDY.
Uit anz aveit Robert vesku	Eight years had Duke Robert lived
Puiz ki'il out le fief tenus	Since he had held the fief.
Grand deuil out William ses filz	Much sorrow had William his son,
Qui encoire est assez petiz	Who was still very young.
Mult out haignes mais poi d'amis	Many were the feuds against him and few were his friends;
Le trouva mult eschès	
Cels que sis pères teneit chiers	Most (of the men) were ill disposed towards him;
Trouva mult arguilliers à fiers	
Li Baruns s'entre guerrieirent	Even those whom his father held dear
Li fort li faibles damagierent	He found haughty and ill inclined.
N'en voldrent nient pur li lessier	The Barons made war with each other;
Ne il ne pout tuz justiciers.	
From Wace, *Roman de Rou.*	The strong oppressed the weak;
	They would have none of his guidance
	And he could not compel them to do justice.
	Bouquet Ed. Vol. II., 8399-8410.

ROMAN DE ROU.	ROMANCE OF ROU.
Por ramembrer des ancessours	To commemorate—of our ancestors
Li fez, li diz, é les moeurs	The acts, sayings and the manners,
Liet dans li livres é li gestes	We should, from the books of history and of jests,

E les histoires lire as festes
Les felonies des felons
E les barnages des Barons
Por ce faire bien assavier
E grand priz durent sil aveir
Ki escrirent prèmierement
E li auctor planierement,
Kil firent livres è escriz
Des nobles fez è des bons diz,
Ke li Barons é li seignor.

Bouquets Ed. Vol. I., lines 1-14.

Read them aloud at feasts.
The felonies of the knaves,
The baronages of the Barons,
For these things we do well to know;
And great reward ought they to have
Who were the first to write.
And fully record those noble deeds
Who first made the books and transcripts
Of the doughty deeds and witty sayings
Which the Barons and the nobles
Wrought and uttered in olden times.

BY SIR ROBERT P. MARETT, JERSEY.

Mais en es-tu bain seu, ma fille ?
Not' John est-i don bain r'venu ?
Tu dis qué nou l'a veu en ville,
I m'ètonn' qu'i n'sait déjà v'nu.
Et t'ont-i dit qui minn' qu'il a ?
Et a-t-i biaucoup crû, je n'sais ?
Qui sait comm' est qu'i viv' par là !
Et pis il y fait si grand fraid.

Patois Poems, 2nd Ed., p. 6.

BY THOMAS LENFESTEY, GUERNSEY.

Nico v'nait m' faire l'amour,
C'h'tai un garçon poli,
J'y pensais l' long du jour,
J'n'en peux vou' dire pourqui.
J' l'aimais comme ma vie,
Et i m'aimait hardi,
Et si c'h'tai une folie,
J'n'en peux vous dire pourqui.

Patois Poems, 2nd Ed., p. 70.

La véyous l'éferoignie
J'si seur qu'nou la coudpoignie
Et qu'a'n'a ieux une bouane goulâie.

B'sourou beroine a'n veur pas d'autre de boiyie.
Quaïr bedi-bedoue qu'j'ai.

La vla acluquie.
Quaïr badlagoule.

Dejoiane la poulliche.

I s'est mis a gueulaïr.

FROISSART.—Vol. XVI. Page 6.

"Ce Duc de Glocestre avoit deux frères, le Duc de Lancastre et le Duc d'Yorck. Ces deux ducs etoient continuellement en l'ostel du Roy, mais encoires eu avoit-il envie, et disoit à plusieurs, à tels comme à l'evesque Robert de Londres, au Conte d'Arondel, oncle de sa femme, au Conte de Warwick, Messire Guillaume de Beauchamp, et à plusieurs autres, quant ils l'aloient veoir son hostel de Plaissy, que ses frères chargoient trop l'ostel du Roy et que chacun Vaulsist mieux chiers soy."

Lettre de Henri III., Roi d'Angleterre, sur la restitution du Comté de Richmond au Duc de Bretagne, l'an 1266. Chateau de Nantes, Armoire. M. Cassette, A. num. 3.

"Henri, par la grace de Dieu, Roy de Angleterre, seigneur de Irelande et duc de Auquitaigne, à touz ceus à qui cestes letres vendront, saluz. Sachez que nous avons rendu à nostre cher et feel, Johan, Duc de Bretayne, fiz Pierres, jadis Duc de Bretaigne, la Comté de Richmond, ove totes les apartenances, por suen homage e por suen servise, laquele Comté et les queles totes apartenances les ancestres memes cel Duc autrefois tindrent."

"La cause de Jewell, l'an 30e d'Elisabeth. L'Evesque de Sarum, par indenture, lessa faire oves les profits pour tres vies rendre l'ancienne rente, qui fuit confirmé par Deane est Chapter.

"Ce Juri-consulte est mort l'an 1635."

Métivier's Franco-Norman Dictionary, p. 364.

From what I have already said, it is evident that our patois is not a corrupt form of French, but a relic of a period when it was the recognised literary Norman language.

Norman may not be an easy language to learn, from the peculiar changes in the pronunciation of its vowel sounds with and without accents, the apparent elisions and contractions, most of which are peculiar only to Norman, yet I question if it would be more difficult to acquire than any other language. If we had primers and grammars and all the paraphernalia devoted to it which are prepared for other languages, we should be enabled to pull through its verbs and idioms or other difficulties quite as easily.

You will pardon me if I remark here that language is not hereditary, but that any language can be acquired by any person under favourable circumstances.

Dialects have no standard rules for spelling, and consequently writers have adopted their own method in all ages, and this varies considerably according to the euphony or orthoepy of the district in which they resided. Take, for instance, our own insular authors, Métivier, Lenfestey, Corbet or Guilbert. Each of these has a different style, for small as the island is scarcely is the pronunciation the same in two parishes, while in some cases entirely different words are in use for the same article: *e.g.*, *Licho*, *Gvêtre*, *y'en*, meaning halter. This I attribute to different tribes coming over at different periods.

I know of no rule to guide the learner in the pronunciation of words of a language, except that adopted by the *élite* of the district in which it is spoken.

I will make a few remarks about the orthography of Norman French. It is practically the same as Parisian French, but like it, is deficient in signs to represent all the sounds used.

A sometimes partakes a little of the o, as *arme;* it is sometimes long, as *ansa*, and sometimes short, as *atouar*, and with â partakes of the aw in awful, as *âme.*

E is similar, but when open in French is short in Norman and *vice-versâ*, but open e seldom occurs in Norman.

I has two sounds, as *isle*, *qui.*

O also has two sounds, as *potin*, *pôt.*

U is long at times and short at others, as *tu*, *urne.*

Aï diphthong has the sound of the English i in line, as *aïguer*, *déhalaïr*, the r being mute.

Âi, another diphthong, and sounding like au in bauble, as *bâie.*

Aû sounds like ow in low, as *ravaûdaïr.*

Aeu sounds much as the ow in vowel, as *guichaeux*, but in both the aeu and aou the a sound is immediately followed by the sounds of the other two vowels, as *craoulaïr.*

Àn, èn, în, ùn have a nasal sound unknown in French, as *bànque, amèndaïr, pâlin, arrùm.*

M or *N* between two vowels renders the preceding one nasal, as *îmanue, înutile.*

Ì. The verbs ending in *ir* and *aïr* drop the sound of the r, as *s'maïr, v'naïr.*

S and *T*, when doubled at the end of a word, are to be sounded as *niett, liett, fiss*, while silent in *niet, liet, fis.*

Oué is one syllable, as *roué, loué.*

Ll is always sounded as in *mouillé, cllaque.*

Gn and *n* are palatals, as *bagnolle, ennaïr.*

Ky, as in *Makyu*, and *Qu*, as in *néquaïr*, have a medium sound between t and k, and are unknown in French, and sound something like *tkyie.*

Gy is palatal, as *gyablle, gyu ;* while *fy, ry, sy* and *vy* are labials, and sound like yie, as *nyaïz, pryaïz, fyaïz.*

Tch is pronounced as in ch in the English word chat.

Liaisons in Norman French are very few, of which here are some :— *Nou-s-raime ses amis, nou-s'aïme, leû-s-enn'mi.*

Here follow a few verb formations :—

TO BE.—ÊTRE.

Pres. Ind.—*J'sis, j'srais, j'fus, j'étaïr, j'aeus étaïr, j'y-avais étaïr, j'srai, j'y-rais étaïr.*

1st Person Plural.—*J'étaimes, j'étion, j'srais, j'érais étaïr.*

Sai, qui sait, sayons, qu'ils saient, sayaïr, sayie.

Subjonctif.—*Qu'j'saies, qu'j'fusse, que j'aie étaïr, que j'aeusse étaïr.*

The verbs *allaïr* (Fr. *aller*) and *acataïr* (Fr. *acheter*), change to *acatis* and *allis* in the Prét. Déf., so also is *aïnis*, while *dormir* and *finir* change to *dormisis* and *finisis*, and in the subjunctive *aller aller* changes to *aûge* and imperfect *allisse*, perfect *étaïr*, pluperfect *paeusse allaïr.*

In the few remarks I have made on Norman orthography and some of the verbs, I have followed freely Mr. Métivier's views, as they appear to me to give more generally the true orthoepic sounds, and to be more free from local peculiarities, though, I admit his writings lean to those

of the Town Parish. Anyone reading his works must study his system first, while anyone reading MM. Lenfestey's or Guilbert's writings will find them more easy, as they are more free from accents and the words are composed of sounds known to French scholars, while they retain the orthoepy of the locality.

Our Norman dialect, like English, is a compound of several languages, but differs from the latter inasmuch as it has undergone but little change for 1,000 years, and anyone understanding and reading it now can understand Wace Benoit or Froissart after a little study.

Frequently we are accused of using English words when conversing, and this elicits the ridicule of our hearers.

I do not hesitate to admit that we use many words which were unknown 800 years ago, for necessity, invention and science having thrust upon us new words, we, like every other nation or community, have been compelled to adopt them.

Take either an English or a French dictionary and note the hundreds of words that are there taken from other languages without change in their orthography, yet these are called, as the case may be, English or French. Are not we Normans justified in doing the same!

The adoption of these new words into our dialect or patois shows that the language is not dead, but is a living tongue able to assimilate new terms necessary for expressing new ideas.

Many of its words have been and are being introduced into French dictionaries.

The Norman language often appears harsh and rude when spoken argumentatively or hurriedly, and to a stranger it presents a peculiar jumble of words, but it wears a very different aspect when *Pierre et Marie sont à leu coin d'âtre à badinaïr*, or when fond parents are calling for their offspring in such words as *ma Charlotte*, *ma poulette*, *ma chière petite*, or *mon p'tit canard de soie*, *men petit chier*.

Very few islanders under thirty years of age, unless from the interior, can speak the ancient dialect or patois, for from their daily intercourse with English people, with whom they must converse for business purposes, they find it necessary to acquire English.

As a patriot who has endeavoured to trace the history of his native tongue, and who regrets that it, with our constitution, is being so rudely dealt with by the thoughtless, uncultured and unpatriotic, may I impress upon you the fact that it is not a corrupt or bad form of French, but the relic of an

honoured classical dialect used by the Romancers of from the 10th to the 14th centuries, and that it is of much greater antiquity than either English or French.

I am not so conservative as to wish to enforce its being taught in our schools, or used in our courts of law, but I do consider it worthy of preservation and careful study.

THE RAINFALL OF GUERNSEY FOR THE YEAR 1897.

BY MR. A. COLLENETTE, F.C.S.

THE rainfall is given, in this paper, as it has occurred at four stations. I am indebted to the following gentlemen for kind co-operation in collecting the rain and in providing me with the data: E. Ch. Ozanne, Esq., Jurat, J. J. Carey, Esq., and Mr. B. Rowswell.

I divide these stations into two orders: *a*, High level stations; *b*, Low level stations; and in the table which follows I give the elevations of these stations above mean sea level.

STATIONS.—TABLE No. I.

Position.	Elevation.	Observer.	On	Years of Observation.
HIGH LEVEL.				
Les Blanches.....	300 feet	Mr. B. Rowswell	East Coast	3
Beaulieu, Hauteville ..	190 feet	Mr. A. Collenette	East Coast	56
LOW LEVEL.				
Claire Mare	50 feet	J. J. Carey, Esq.	West Coast	2
L'Ancresse	33 feet	E. Ch. Ozanne, Esq.	North Coast	1

As the actual rainfall at Beaulieu, Hauteville, is that used in the totals, averages and means published by me as a continuation of Dr. Hoskins' series, I shall treat of it first, afterwards comparing the falls of other stations with the results so obtained. This series has now been carried on without break for fifty-five years. The means and averages are published every five years; a reference to the last sheet published will show that the changes produced year by year are extremely slight. The other stations are comparatively new, and offer consideration of much interest as their details are observed and compared with the results now arrived at in the long series.

RAINFALL AT BEAULIEU, HAUTEVILLE, FOR 1897.

TABLE II.

Months.	RAINFALL.				WET DAYS.			
	Fall in Inches.	Average of 55 years.	Differs from Average.		No. of Wet Days.	Average of 55 years.	Differs from Average.	
			Above	Below			Above	Below
January	2·91	3·86	—	0·95	27	19	8	—
February	2·90	2·75	0·33	—	19	15	4	—
March	5·18	2·51	2·67	—	24	15	9	—
April	3·94	2·28	1·66	—	22	13	9	—
May	2·45	2·14	0·31	—	13	11	2	—
June	3·66	2·04	1·62	—	13	11	2	—
July	0·47	2·28	—	1·71	7	11	—	4
August	4·65	2·42	2·23	—	21	12	9	—
September	4·11	3·19	0·92	—	17	14	3	—
October	1·17	4·97	—	3·80	10	19	—	9
November	1·61	4·52	—	2·91	12	19	—	7
December	5·42	4·17	1·25	—	18	19	—	1
The Year..	38·47	36·95	1·52	—	203	178	25	—

The year is thus shown to be a wet year both as regards the total fall and the number of wet days. Four months proved too dry and eight too wet. The greatest departure from the average was that of October.

COMPARISON OF THE FOUR STATIONS GIVEN IN TABLE No. I FOR RAINFALL AND WET DAYS.

TABLE III.

Months.	HIGH LEVEL STATIONS.				LOW LEVEL STATIONS.			
	EAST COAST.				WEST COAST.		NORTH COAST.	
	Beaulieu, Hauteville, St. Peter-Port.		Les Blanches, St. Martin's.		Claire Mare, St. Peter-in-the-Wood.		L'Ancresse. Royal Golf Club, Vale.	
	Fall in Inches.	Wet Days.	Fall in Inches.	Wet Days.	Fall in Inches.	Wet Days.	Fall in Inches.	Wet Days.
January	2·91	27	2·69	26	2·76	19	2·50	19
February ..	2·90	19	2·67	19	2·14	16	2·76	14
March	5·18	24	4·76	26	4·27	22	4·84	22
April	3·94	22	3·85	22	3·31	20	3·27	21
May	2·45	13	2·53	13	2·30	11	2·21	11
June	3·66	13	3·75	16	2·84	9	3·58	8
July	0·47	7	0·52	8	0·42	6	0·36	3
August	4·65	21	4·46	20	3·82	17	3·76	15
September ..	4·11	17	4·20	19	3·05	15	3·15	14
October	1·17	10	1·16	13	0·71	5	0·43	3
November ..	1·61	12	1·71	10	1·13	9	1·32	6
December ..	5·42	18	4·97	21	4·24	17	4·77	17
The Year..	38·47	203	37.27	213	30·99	166	32·95	153

From the results given above we may judge that we are likely to find l'Ancresse to prove intermediate in rainfall. It is worthy of remark that between the wettest and driest stations no less a difference than 7·48 inches has this year been recorded. It follows, therefore, that (last year's difference between the same stations was 5·11 inches) the long series should no longer be quoted as the rainfall of Guernsey but of St. Peter-Port, Guernsey.

In order to show the influence of position in the island, I give a table showing the mean of the four stations discussed in 1896, and that of the four stations now under discussion for 1897, also the mean results of the two years in comparison with the results obtained at Hauteville and with the fifty-five years' average.

The stations for 1896 are Hauteville, Les Blanches, Claire Mare and Cobo. The stations for 1897 are Hauteville, Les Blanches, Claire Mare and l'Ancresse.

MEANS FOR THE YEARS 1896 AND 1897.—FOUR STATIONS.

TABLE IV.

Months.	Mean of 4 Stations for 1896.		Mean of 4 Stations for 1897.		Average of 4 Stations for both.		Average of Beaulieu for both years.		Average for 55 years.	
	Inches	Wet Days.	Inches	Wet Days.	Inches	Wet Days.	Inches	Wet Days.	Inches	Wet Days.
January	1·18	15	2·71	23	1·95	19	2·09	20	3·86	19
February	0·43	8	2·62	17	1·52	12	1·66	13	2·75	15
March	3·21	24	4·76	24	4·00	24	4·19	25	2·51	15
April	0·77	11	3·59	21	2·19	16	2·37	16	2·28	13
May	0·20	3	2·37	12	1·29	7	1·31	7	2·14	11
June	1·87	12	3·46	11	2·66	11	2·84	13	2·04	11
July.....	1·08	7	0·66	6	0·87	6	0·77	7	2·28	11
August	2·18	13	4·17	18	3·17	15	3·40	18	2·42	12
September	6·48	26	3·62	16	5·05	21	5·78	21	3·19	14
October	6·80	27	0·87	8	3·80	17	7·15	19	4·97	19
November	1·97	14	1·44	9	1·70	12	1·82	12	4·52	19
December	4·69	28	4·38	18	4·53	23	5·11	23	4·17	19
The Year....	30·88	190	34·92	180	32·90	183	35·72	197	36·95	178

The above table is important and will increase in importance year by year, for it will show the difference between the mean rainfall of the island and that of the town, and enable us to arrive at the true rainfall of the whole island. For instance, the rainfall as shown by four stations for the years 1896 and 1897 is 32·90 inches, while that of Beaulieu for the same period is 35·72 inches, a difference of 2·82 inches. This applied to the results of the 55 years gives a plus error of

1·15 inches, reducing the average as found for St. Peter-Port 36·95 inch to 35·80 for the whole island.

Falls of one inch and over occurred as follows :—

June 25th.....Hauteville .....1·15 inches.
„ .....Les Blanches ...1·37 „
„ .....L'Ancresse .....1·69 „

HEAVIEST FALLS IN EACH MONTH.

TABLE V.

Months.	Hauteville.		Les Blanches.		Claire Mare		Mont Saint.		L'Ancresse.	
	Day.	Fall.	Day.	Fall.	Day.	Fall.	Day.	Fall.	Day.	Fall.
January	31	0·76	7	0·62	7	0·62	—	—	7	0·72
February	1	0·64	1	0·57	1	0·42	—	—	1	0·75
March	2	0·73	2	0·66	2	0·72	—	—	2	0·67
April	5	0·50	5	0·44	5	0·63	—	—	3	0·45
May	29	0·66	29	0·63	29	0·65	—	—	27	0·60
June	25	1·15	25	1·37	25	0·80	—	—	25	1·69
July.....	5	0·17	5	0·15	15	0·15	—	—	6	0·20
August	26	0·78	26	0·75	26	0·85	26	0·80	26	0·88
September	5	0·86	5	0·79	6	0·55	6	0·51	5	0·70
October	12	0·45	12	0·44	12	0·29	—	—	15	0·29
November	30	0·57	30	0·63	7	0·35	—	—	30	0·43
December	1	0·98	1	0·88	1	0·56	—	—	11	0·73

Observations were taken at Mont Saint from the 27th of August to the 24th of September inclusive. The interval is too short to found conclusions on, but I may say that they agree well with those of Claire Mare.

DROUGHTS.

Date and Interval.	Days.	Fall.	Station.	Drought.
From 7th July to 3rd August	28	0·28	Hauteville	Partial.
„ 7th „ to 4th „	29	0·24	Claire Mare	„
„ 28th June to 3rd „	36	0·36	L'Ancresse	„
„ 7th July to 3rd August	28	0·24	Les Blanches	„
From 20th Oct. to 6th Nov.	18	0·00	Hauteville	Absolute.
„ 19th „ to 6th „	19	0·00	Claire Mare	„
„ 18th „ to 6th „	20	0·00	L'Ancresse	„
„ 20th „ to 6th „	18	0·00	Les Blanches	„

THE FUNGI OF GUERNSEY.

BY MR. E. D. MARQUAND, EX-PRESIDENT.

THE only section of the Guernsey flora of which no record has yet been published is the one which comprises the enormous tribe of Fungi. During the last ten years the indigenous vegetation of the island has been carefully studied, and in the *Transactions* of this Society may be seen localised lists, complete as far as possible, of the Flowering Plants, Ferns, Mosses, Hepaticæ, Lichens and Algæ. But no attempt has hitherto been made to grapple with that mighty host of heterogeneous plants classed by science under the name of *Fungi*,—a term which has no exact English equivalent, although the larger and more conspicuous members of the group are well known to everybody under the name of Mushrooms and Toadstools; while some of the microscopic forms are even more familiar as ubiquitous moulds and mildews. But between these two extremes, so to speak, there exists a vast multitude of parasitic and saprophytic plants, entirely unknown to the majority of people.

Through the kindness of friends in Guernsey who readily responded to my appeal for aid in collecting specimens, I am enabled to-day to fill up the gap in the recorded flora, by laying before you a very fine list of the Fungi of the island, comprising more than four hundred and fifty species. As to the accuracy of this list it is sufficient to state that every specimen has been submitted to, and identified by, one of the most experienced of living mycologists, Mr. George Massee, F.L.S., of the Royal Herbarium, Kew, to whom I am deeply grateful for his never-failing readiness to examine the large parcels of fresh specimens I brought to him, often amidst much pressure of official work.

I desire likewise to return my sincere thanks to the ladies and gentlemen who have co-operated in the necessary labour

of collecting the specimens and forwarding them to me. Without assistance of this kind nothing could have been done; and therefore I gladly record the fact that the whole of the materials upon which this paper is founded were supplied by Mrs. Boley, Miss Boley, Miss Dawber, Miss Royle, and Messrs. A. Collenette, G. Derrick, T. Domaille, J. S. Hocart, H. Le Lacheur, W. A. Luff, T. C. Royle and —. Chutter. In the annexed list I have noted all the localities in which the different species have been collected up to the present, so that a rough idea may be formed of local distribution, at any rate with regard to the more conspicuous fungi; and the rule of priority has been strictly adhered to; the person's name first given denotes the discoverer of the species in the island, and the first locality mentioned is always the one where the earliest specimen was found.

With very few exceptions—scarcely more than a dozen —all the fungi enumerated were collected during the months of August, September, October and November of the present year (1897). Species collected subsequently will be published next year in a supplementary list.

A cursory examination will show that fully one-half of the fungi now recorded are agarics, that is to say, species akin to the common Mushroom and more or less resembling it in shape. Now, it is computed that in any fairly productive district the microscopic fungi outnumber the agarics in the proportion of five to one; so that it is clear that Guernsey must possess a far richer mycological flora than would at first sight have been supposed, judging from its isolation, its comparatively small area, and its entire lack of forest land and copses. The presence of a number of forms usually found in woods may be attributed to the circumstance that at one period the island comprised stretches of woodland of very considerable extent.

When the fungus-flora of Guernsey has been more thoroughly worked up, it will be interesting as well as instructive to compare it with that of similar areas in England and France; but at present there is not material enough in hand to admit of anything of that kind.

It is well known that many agarics are extremely uncertain in their appearance. They abound for a few seasons and then disappear altogether, and are seen no more for years, after which they perhaps spring up again in great profusion, as if by magic. No doubt this is due in a great measure to peculiar atmospheric conditions, though why these should operate on certain species and not on others, it is not

easy to understand. Hence, for this and other reasons, continuous observations extending over several years in succession are requisite for the compiling of anything like a complete catalogue of the fungi of a locality. At the same time, every single record is an item of value added to the general knowledge of the subject.

It is interesting to find that all the principal genera of the *Agaricineæ* are represented in Guernsey; the richest locally being the beautiful and attractive genus *Hygrophorus*, of which twenty-two species are recorded, some of them being exceedingly rare in Britain.

On the other hand, but little comparatively has been done among the microscopic fungi, and several large groups hardly figure at all in this list. An immense field lies open for winter and spring work among those tiny saprophytes which abound wherever there is any kind of dead or decaying vegetation; while one section alone, the leaf parasites *(Hypodermii)*, would afford ample occupation and yield rich results to any person devoting special attention to it during an entire season.

Numerous additions are certain to be made to the list of Myxogastres, a very curious group of minute organisms, remarkable by their beauty of form, brilliancy of coloration, and wonderful life-history. Opinions differ as to the affinities of this singular group, some authorities regarding them as related to the fungi, which they resemble, whereas others assign to them a place in the animal kingdom. Descriptions and coloured figures of the species will be found in Mr. Massee's "Monograph of the British Myxogastres."

Two fungi new to science have been discovered in Guernsey, —an agaric and a mould. The first, which Mr. Massee has named *Clitopilus sarnicus*, was gathered by Mr. Luff in the Talbots Valley on the 7th of October. It is not a striking species in any way, being of the ordinary parasol-shape, with a tawny-olive cap an inch or so across, and pale salmon-pink gills. Apparently it is either very rare or very local in Guernsey, as among the many hundreds of agarics received from all parts of the island no other specimens have been seen. Quite the reverse in this respect is the other new species, a parasitic mould, which Mr. Massee has done me the honour to name *Verticillium Marquandii*. It grows on healthy-looking specimens of *Hygrophorus virgineus*, colouring the gills and stem a beautiful lilac purple. The parasite is as widely distributed in the island as its host, and almost as common; but it is strictly confined to *H. virgineus*, not a trace of it having been detected on any other species.

Besides these two there are nine species which have not hitherto been detected in Britain proper, viz. :—

Marasmius globularis.
Agaricus rubellus.
Polystictus tomentosus.
Lachnea pulcherrima.
Bertia collapsa.
Torula asperula.
Volutella vitis.
Fusarium argillaceum.
Phyllosticta hedericola.

The following agarics deserve notice on account of their extreme rarity as British species, only one or two specimens having been recorded ; and most of them have not been seen for a great many years :—

Lepiota permixta,
Lep. promineus.
Pleurotus Ruthæ.
Hygrophorus russo-coriaceus.
Hyg. ventricosus.
Pilosace algeriensis.

Taking the *Agaricineæ* as a whole the most interesting genus locally is certainly *Hygrophorus*. On this point the following suggestive remarks from the pen of Mr. Massee, who has examined all the specimens received from Guernsey, will be read with interest :—

"The occurrence of so many species of *Hygrophorus* within so limited an area is very remarkable, and careful study would almost certainly add to the number already observed, as several specimens received in a condition too imperfect for certain identification did not appear to belong to recorded species. Furthermore, the remarkable variation in form, colour and size of such species as *H. puniceus*, *H. coccineus*, and others, suggests a line of work which could not fail, if thoroughly investigated, to aid to a very material extent in solving the interesting problem bearing on the causes of variation in species. The examples from l'Ancresse Common proved exceedingly interesting from this standpoint. Perfectly typical specimens occurred mixed with such varied departures from the type that the extreme forms if collected in localities apart from the typical form, and not connected by intermediate links, might reasonably have been considered as distinct species. Why is this ? The question can only be answered by some person resident in the island ; and the fascination certain to accrue from a study of this cause of

variation, and the great benefit to science generally, should stimulate some one to undertake the task."

Although the present list gives the result of only four months' work, it shows clearly enough that Guernsey offers a field quite as rich and varied to the mycologist as to the phanerogamist, the lichenist, and the seaweed collector. It is to be hoped, therefore, that with these admirable results before them, the ladies and gentlemen who have so energetically and so successfully collected during the past autumn will continue their researches during the winter, spring and summer, so that next year a substantial list of additional species may be drawn up, thereby materially extending our knowledge of the fungus-flora of the island.

For convenience of reference it may be well to state here that 159 genera and 456 species are enumerated in the following pages.

HYMENOMYCETES.

Amanita phalloides, *Fr.* Very poisonous, causing a large percentage of the deaths due to fungus-poisoning. Moulin de Haut, Castel (Le Lacheur).

A. rubescens, *Fr.* Edible. Anneville, St. Saviour's (Le Lacheur).

Amanitopsis vaginata, *Fr.* Edible. Fir plantation near Bec-du-Nez (Luff).

Lepiota procera, *Scop.* An edible, excellent and safe species. Varclin, St. Martin's (Miss Boley); Grandes Rocques, Burnt Lane, Grande Mare and Grand Havre (Luff); l'Ancresse Common, Woodlands, Calais (Derrick); Vielle Rue, St. Saviour's, and Pleinmont (Le Lacheur); l'Ancresse (Hocart).

L. rachodes, *Vitt.* Edible. Garden, Burnt Lane, and Ivy Castle (Luff); greenhouse, King's Road (Miss Royle); Saints' Bay (Miss Hoyte); l'Islet (Collenette).

L. permixta, *Fr.* Very rare in Britain. "A critical species, but truly distinct from *L. procera* and *L. rachodes*" (Massee); l'Ancresse (Hocart).

L. excoriata, *Schaef.* Near Woodlands, and in garden, Mount Durand (Derrick); l'Ancresse (Hocart); Ronceval and Pulias (Luff).

L. gracilenta, *Kromb.* Near Woodlands (Derrick); l'Ancresse, Bordeaux and Fort Doyle (Luff); Norgiots and Cambridge Park (Le Lacheur); Icart Point (Miss Boley).

L. Friesii, *Lasch.* Fauxconnaires (Collenette).

L. clypeolaria, *Bull.* Fermain Bay (Luff).

L. cristata, *A. & S.* Norgiots, St. Andrew's (Le Lacheur).

L. erminea, *Fr.* Vazon (Luff).

L. holosericea, *Fr.* L'Ancresse Common (Hocart).

L. granulosa, *Batsch.* Calais, St. Martin's (Derrick).

L. sistrata, *Fr.* Grand Havre (Luff).

L. promineus, *Barla.* Only a single specimen has been found in Britain, and that many years ago. Near Richmond Barracks and near Ivy Castle (Luff); Prevosts, St. Saviour's (Le Lacheur).

Armillaria mellea, *Vahl.* Edible, but lacking flavour. Moulin Huet (Mrs. Boley); near St. Martin's Church (Miss Boley); Fermain, Bec-du-Nez, Saints' Bay, Petit Bot and l'Ancresse Common (Luff); Norgiots and Prevosts (Le Lacheur); Ville au Roi (Derrick).

A. mucida, *Schrad.* Norgiots (Le Lacheur); Vazon (Luff).

Tricholoma spermaticum, *Fr.* Fetid. Coast near Grand Havre (Luff).

T. stans, *Fr.* Rare in Britain. Norgiots (Le Lacheur).

T. rutilans, *Schaef.* Les Terres (Miss Dawber).

T. atrocinereum, *Pers.* Rare in Britain. L'Ancresse Common (Hocart).

T. cuneifolium, *Fr.* Norgiots (Le Lacheur); Jerbourg (Mrs. Boley); Icart Point (Miss Boley); Lower Havelet, Moulin Huet and Ivy Castle (Luff).

Var. *cinereo-rimosus,* Batsch. Perelle (Luff).

T. sulphureum, *Fr.* Fetid. Norgiots (Le Lacheur).

T. personatum, *Fr.* Edible. One of the few fungi besides the common mushroom offered for sale in English markets. Known as "Blue Caps" or "Blewits." L'Ancresse Common (Hocart); Grandes Rocques, Pulias and Vazon (Luff); Buttes, St. Saviour's (Le Lacheur); Naftiaux (Derrick).

T. nudum, *Bull.* Edible. Coast near Grand Havre (Luff); Sausmarez, Castel and Vazon Bay (Derrick).

T. panaeolum, *Fr.* Norgiots, St. Andrew's (Le Lacheur).

T. melaleucum, *Pers.* Var. *polioleucum.* Edible. Cliffs near Saints' Bay (Luff); Norgiots (Le Lacheur).

T. brevipes, *Bull.* L'Ancresse Common (Hocart).

T. humile, *Pers.* L'Ancresse Common (Hocart).

T. sordidum, *Fr.* Vazon (Luff).

Marasmius personatus, *Fr.* Poisonous. Terres Plantation (Miss Royle); Talbots Valley (Luff).

M. oreades, *Fr.* The Fairy Ring Mushroom. Edible; best dried for winter use. Saints' Bay (Miss Boley); Paradis (Royle); Doyle's Monument, Petit Bot, Lihou Island, Vazon, Cobo, Grandes Rocques, Pulias, Ronceval, Grand Havre and Fort Doyle (Luff); Moulin Huet and Fermain (Derrick); l'Ancresse Common (Hocart); Jerbourg and Icart Point (Mrs. Boley); Norgiots (Le Lacheur); l'Islet (Collenette).

M. erythropus, *Fr.* L'Ancresse (Luff).

M. amadelphus, *Fr.* Indiana, St. Martin's, in a fern pot (Mrs. Boley).

M. ramealis, *Fr.* L'Ancresse (Hocart); Saints' Bay (Luff).

M. rotula, *Fr.* Moulin Huet (Miss Boley).

M. androsaceus, *Fr.* Indiana, St. Martin's, in a fern pot (Mrs. Boley).

M. insititus, *Fr.* In greenhouse, Indiana (Mrs. Boley).

M. globularis, *Fr.* Not British. Fermain Hill (Derrick).

Collybia radicata, *Relh.* L'Ancresse Common (Hocart); Norgiots (Le Lacheur).

C. fusipes, *Bull.* Castel (Derrick); near St. Martin's Church (Miss Boley); garden, Lower Havelet (Luff).

C. velutipes, *Fr.* Grand Havre, Pulias and Icart Point (Luff); Massys, St. Peter's (Le Lacheur); l'Ancresse Common (Derrick).

C. confluens, *Pers.* L'Ancresse Common (Hocart); Grand Havre (Luff).

C. tuberosa, *Bull.* Quarry by Ozanne's Tower, Castel (Derrick).

C. collina, *Scop.* Rare in Britain. Cobo (Luff).

C. xanthopoda, *Fr.* L'Ancresse Common (Hocart); garden, Burnt Lane (Luff).

C. nitellina, *Fr.* L'Ancresse (Luff).

Collybia esculenta, *Wulf.* Vazon Bay, towards Richmond (Derrick).
C. acervata, *Fr.* L'Ancresse Common (Derrick).
C. dryophila, *Bull.* Moulin Huet and Touillets (Derrick); l'Ancresse (Luff); Norgiots (Le Lacheur).
Mycena corticola, *Fr.* Norgiots (Le Lacheur).
M. capillaris, *Fr.* Ville au Roi (Miss Boley).
M. tenerrima, *Berk.* Norgiots (Le Lacheur).
M. leucogala, *Cooke.* L'Ancresse Common (Hocart).
M. sanguinolenta, *A. & S.* Icart Point (Mrs. Boley).
M. filopes, *Bull.* Norgiots (Le Lacheur).
M. alcalina, *Fr.* Coast near Grand Havre (Luff).
M. ammoniaca, *Fr.* Rabbit Warren, near Ivy Castle (Luff).
M. metata, *Fr.* Coast near Pulias (Luff).
M. ætites, *Fr.* Jerbourg (Miss Boley); Rabbit Warren (Luff).
M. stannea, *Fr.* Saints' Bay and Corbière (Luff); Jerbourg (Mrs. Boley).
M. psammicola, *B. & Br.* Sous l'Eglise, St. Saviour's (Le Lacheur).
M. rugosa, *Fr.* L'Ancresse Common (Hocart).
M. galericulata, *Scop.* Jerbourg (Miss Boley); fir plantation near Bec-du-Nez (Luff).
M. polygramma, *Bull.* Norgiots (Le Lacheur).
M. gypsea, *Fr.* Norgiots (Le Lacheur).
M. flavo-alba, *Fr.* Gouffre (Luff).
M. adonis, *Bull.* Norgiots (Le Lacheur).
M. flavipes, *Quel.* Grandes Rocques (Luff).
M. pura, *Pers.* L'Ancresse Common (Hocart); Pulias (Luff).
Russula alutacea, *Fr.* Hubits (Miss Boley); Bec-du-Nez (Luff).
R. lutea, *Fr.* Varclin Lane (Miss Boley).
R. nitida, *Fr.* Havilland Hall (Royle); Bec-du-Nez (Luff).
R. Linnaei, *Fr.* Fir plantation near Bec-du-Nez (Luff).
R. puellaris, *Fr.* Varclin Lane (Miss Boley).
R. nigricans, *Fr.* Norgiots (Le Lacheur).
R. adusta, *Fr.* Saints' Bay (Miss Boley).
R. furcata, *Fr.* Norgiots (Le Lacheur).
R. vesca, *Fr.* Edible. Varclin Lane (Miss Boley).
R. cynoxantha, *Schaef.* Varclin Lane (Miss Boley).
R. rubra, *Fr.* Hubits (Miss Boley).
R. drimeia, *Cooke.* Near Doyle's Monument (Luff).
R. Queletii, *Fr.* Fir plantation near Bec-du-Nez (Luff).
Lactarius vellereus, *Fr.* Mont Vaurouf, St. Saviour's, in a furze brake (Le Lacheur). A very fine specimen, nine inches in diameter. Mr. Le Lacheur says he has also seen this species at Moulin de Haut, Castel.
L. pallidus, *Fr.* Near Doyle's Monument (Derrick).
L. rufus, *Scop.* Cliffs near Doyle's Monument (Luff).
Laccaria laccata, *Scop.* Varclin Lane (Miss Boley); Norgiots and Moulin de Haut (Le Lacheur); l'Ancresse (Hocart); near St. Andrew's Church (Luff).
Clitocybe nebularis, *Batsch.* Edible. Norgiots and Talbots Valley (Le Lacheur).
C. phyllophila, *Fr.* Sages, St. Peter's (Le Lacheur).
C. senilis, *Fr.* Near Corbière (Luff).

Clitocybe fragrans, *Sow.* Lower Havelet, Bec-du-Nez, Icart Point and Pulias (Luff); St. Sampson's (Derrick); Vinaires, St. Peter's (Le Lacheur).

C. obsoletus, *Batsch.* Coast near Pulias (Luff).

Omphalia pyxidata, *Bull.* Vazon Bay, towards Richmond (Derrick).

O. philonotis, *Lasch.* Ivy Castle (Luff).

O. oniscus, *Fr.* Cobo (Luff).

O. glaucophylla, *Lasch.* Cobo (Luff).

O. rustica, *Fr.* Bec-du-Nez (Luff).

O. demissa, *Fr.* Rare in Britain. L'Ancresse Common (Hocart).

O. campanella, *Batsch.* Fermain (Luff).

O. fibula, *Bull.* Petit Bot (Luff); Sausmarez, Castel (Derrick).

Pleurotus Ruthæ, *B. & Br.* Very rare in Britain; has not been found for many years. Near St. Martin's Church (Miss Boley).

P. algidus, *Fr.* Rabbit Warren, near Ivy Castle (Luff).

Hygrophorus sciophanus, *Fr.* Talbots Valley (Luff).

H lætus, *Fr.* Cobo, Moulin Huet and Saints' Bay (Luff).

H. ceraceus, *Wulf.* Petit Bot (Luff); l'Ancresse Common (Hocart); Fort George and near Doyle's Monument (Derrick); Jerbourg (Miss Boley).

H. coccineus, *Schaef.* L'Ancresse Common (Hocart). Much modified in form, size and colour by growing in sand. Vale Castle Hill, Pulias, Icart Point and Saints' Bay (Luff); Moulin, St. Peter's (Le Lacheur).

H. miniatus, *Fr.* L'Ancresse, Saints' Bay and Moulin Huet (Luff).

H. turundus, *Fr.* Fields near Saints' Bay (Luff).

H. mucronellus, *Fr.* Rare in Britain. Fermain Bay (Luff).

H. puniceus, *Fr.* Edible. Near Doyle's Monument and St. Martin's Cliffs (Derrick); Corbière, Perelle, Vazon, Cobo, Grand Havre, Pulias and Fort Doyle (Luff); Jerbourg (Miss Boley); Norgiots (Le Lacheur); Icart Point (Mrs. Boley); l'Ancresse Common (Hocart). Var. *castaneus.* Mass. Var. nov. A new variety, distinguished by its ruddy chestnut colour. Moulin Huet, Saints' Bay and Grand Havre (Luff); Pleinmont (Le Lacheur).

H. obrusseus, *Fr.* Jerbourg (Miss Dawber); Norgiots (Le Lacheur); Moulin Huet, Saints' Bay, Icart Point, Corbière, Perelle, Pulias and Cobo (Luff).

H. intermedius, *Pass.* Bec-du-Nez and Saints' Bay (Luff).

H. conicus, *Fr.* Moulin Huet (Derrick): Saints' Bay, Petit Bot, Corbière, Lihou Island, Perelle, Grande Mare, Cobo, Fort Le Marchant, Fort Doyle and Lower Havelet (Luff); l'Ancresse Common (Hocart); Prevosts and Honguette, St. Peter's (Le Lacheur).

H. calyptræformis, *Berk.* Rare in Britain. Edible. Ronceval (Luff).

H. chlorophanus, *Fr.* Norgiots (Le Lacheur); near Doyle's Monument, Icart and Pulias (Luff).

H. psittacinus, *Schaef.* L'Ancresse Common (Hocart); Saints' Bay, Moulin Huet, Petit Bot, Pulias, Rabbit Warren and Havelet (Luff); Norgiots (Le Lacheur).

H. unguinosus, *Fr.* Ivy Castle (Luff).

H. pratensis, *Fr.* Edible. L'Ancresse Common (Hocart); Jerbourg and Fermain Hill (Miss Boley); Norgiots, Pleinmont, Vallées, Moulin de Haut and near St. Peter's Church (Le Lacheur); Perelle, Moulin Huet, Petit Bot and Fort Doyle (Luff); St. Saviour's (Chutter); Naftiaux (Derrick).

Hygrophorus virgineus, *Wulf.* Edible. Saints' Bay, Moulin Huet, Petit Bot, Perelle, Grandes Rocques, Pulias, Fort Doyle and Havelet (Luff); Norgiots (Le Lacheur); l'Ancresse Common (Hocart); Ivy Castle and St. Sampson's (Derrick); St. Saviour's (Chutter). Growing specimens are frequently coloured on the under side bright lilac-purple, caused by the parasitic mould *Verticillium Marquandii*, Mass.

H. niveus, *Fr.* Norgiots (Le Lacheur); Fermain Cliffs, Moulin Huet, Saints' Bay, Corbière, Lihou Island, Cobo, Grandes Rocques, Grand Havre and Fort Doyle (Luff); Jerbourg (Miss Boley); l'Ancresse Common (Hocart).

H. russo-coriaceus, *B. & Br.* Very rare in Britain. Smells like Russia leather. Ville au Roi and St. Martin's Cliffs (Derrick); Icart Point (Mrs. Boley); l'Ancresse Common (Hocart); Pulias (Luff).

H. ventricosus, *B. & Br.* Extremely rare in Britain; has not been found for a great many years. Moulin Huet, in fields overlooking the bay (Luff).

H. ovinus, *Bull.* Cobo (Luff).

H. subradiatus, *Fr.* Var. *lacmus.* Saints' Bay (Luff).

Cantharellus cibarius, *Fr.* Edible. Smell resembling apricots, especially the day after being gathered. Mont Vaurouf, St. Saviour's (Le Lacheur).

C. Friesii, *Quel.* Queux, Castel (Derrick); Rabbit Warren (Luff).

C. aurantiacus, *Fr.* Poisonous. Vielle rue, St. Saviour's (Le Lacheur); l'Ancresse Common (Hocart). Mr. Le Lacheur says he has also seen this species at Norgiots, St. Andrew's.

C. carbonarius, *Fr.* Moulin Huet (Derrick); Cobo (Luff).

Lentinus tigrinus, *Fr.* Grandes Rocques (Miss Boley).

Panus stypticus, *Fr.* Norgiots and Moulin de Haut (Le Lacheur).

Lenzites betulina, *Fr.* Norgiots (Le Lacheur).

Entoloma sinuatum, *Fr.* Poisonous. Moulin Huet (Luff); l'Ancresse Common (Hocart).

E. jubatum, *Fr.* Rocquaine (Le Lacheur).

E. sericellum, *Fr.* Lihou Island (Luff).

E. costatum, *Fr.* Cobo (Luff).

E. sericeum, *Fr.* Saints' Bay (Miss Boley); Vazon, Pulias and Fort Doyle (Luff); l'Ancresse Common (Hocart).

Nolanea pascua, *Pers.* Corbière and Rabbit Warren (Luff).

N. mammosa, *Fr.* Rare in Britain. Gouffre (Luff).

N. nigripes, *Trog.* Vazon Bay, towards Richmond (Derrick).

Leptonia lampropoda, *Fr.* Paradis, Vale (Royle); Norgiots (Le Lacheur); Corbière, Lihou Island and Moulin Huet (Luff); Vazon Bay (Derrick).

L. solstitialis, *Fr.* Saints' Bay, Rabbit Warren, Pulias and Vale Castle Hill (Luff); Jerbourg and Icart Point (Miss Boley).

L. serrulata, *Fr.* L'Ancresse Common (Luff, Hocart); Calais (Derrick).

L. euchroa, *Pers.* L'Ancresse (Luff).

L. chalybea, *Pers.* Rare in Britain. Corbière (Luff).

Clitopilus cretatus, *B. & Br.* Talbots Valley (Luff).

C. sarnicus, *Mass.*, sp. nov. Talbots Valley (Luff). Apparently very rare in Guernsey, as only the original specimens have been received.

Eccilia carneo-grisea, *B. & Br.* L'Ancresse Common (Hocart).

E. atropuncta, *Pers.* Cobo (Luff).

Pholiota squarrosa, *Mull.* Norgiots (Le Lacheur). Var. *Mulleri.* Reines, St. Peter's (Le Lacheur).

P. adiposa, *Fr.* St. Martin's (Miss Boley); Fermain Lane (Luff).

P. Junonia, *Fr.* Cobo (Luff).

Pholiota mutabilis, *Schaef.* Norgiots (Le Lacheur).
Bolbitius vitellinus, *Fr.* Rabbit Warren (Luff).
B. titubans, *Fr.* Cobo (Luff).
B. tener, *Berk.* Indiana, St. Martin's, in a fern pot (Mrs. Boley); Calais (Derrick).
Inocybe scaber, *Fr.* Garden, Lower Havelet (Luff).
I. Bongardii, *Weinm.* Petit Bot (Luff).
I. hiulca, *Fr.* Garden, Lower Havelet (Luff).
I. rimosa, *Bull.* St. Martin's, towards the church (Miss Boley).
I. sindonia, *Fr.* Cobo (Luff).
Naucoria cerodes, *Fr.* Rocquettes Lane (Royle).
N. sideroides, *Bull.* Moulin de Haut, Castel (Le Lacheur).
N. semi-orbicularis, *Bull.* L'Ancresse Common (Hocart).
N. tabacina, *D.C.* Havilland Hall (Royle).
N. tenax, *Fr.* Rabbit Warren (Luff).
N. temulenta, *Fr.* Field near Saints' Bay (Luff).
N. scorpioides, *Fr.* Norgiots (Le Lacheur).
Hebeloma glutinosum, *Lindg.* Talbots Valley (Luff).
Galera tenera, *Schaef.* Indiana, in a fern pot, and Icart Point (Mrs. Boley); Norgiots (Le Lacheur); Pulias (Luff).
G. siliginea, *Fr.* Fermain Hill (Miss Boley).
G. campanulata, *Mass.* Icart Point (Luff).
G. antipoda, *Lasch.* Garden, rue Poudreuse (Domaille).
G. spartea, *Fr.* Gouffre (Luff).
G. hypnorum, *Batsch.* Norgiots (Le Lacheur); Pulias (Luff).
Flammula carbonaria, *Fr.* Bec-du-Nez and Cobo (Luff).
F. flavida, *Schaef.* Sous l'Eglise, St. Saviour's (Le Lacheur).
F. apicrea, *Fr.* Vazon (Luff).
F. hybrida, *Fr.* Norgiots (Le Lacheur).
F. sapinea, *Fr.* Cobo (Luff).
F. ochrochlora, *Fr.* Rare in Britain. Norgiots (Le Lacheur).
Tubaria furfuracea, *Pers.* Cliffs, Petit Bot (Luff); l'Ancresse Common (Hocart).
T. inquilina, *Fr.* Petit Bot (Luff).
Crepidotus mollis, *Fr.* Norgiots (Le Lacheur).
C. calolepis, *Fr.* Norgiots (Le Lacheur).
Cortinarius saturninus, *Fr.* Varclin Lane (Miss Boley).
C. dolabratus, *Fr.* Cobo (Luff).
C. leucopus, *Bull.* Varclin Lane (Miss Boley); Moulin Huet (Mrs. Boley).
C. rigidus, *Fr.* Varclin Lane (Miss Boley).
Paxillus lividus, *Cooke.* Lihou Island (Luff).
Agaricus campestris, *Linn.* The common edible Mushroom, apparently rare in Guernsey. Var. *hortensis.* The cultivated form. Fauxconnaires (Collenette); l'Ancresse Common (Luff, Hocart). Var. *sylvicola.* Norgiots (Le Lacheur); Ronceval and Grand Havre (Luff).
A. arvensis, *Schaef.* The Horse Mushroom; edible. Icart Point (Miss Boley); Pleinmont (Le Lacheur); Grand Havre (Luff).
A. xanthodermus, *Pat.* Edible. L'Ancresse Common (Hocart).
A. sylvaticus, *Schaef.* Lihou Island and Pulias (Luff).

Agaricus cretaceus, *Fr.* Jerbourg (Miss Boley).

A. sagatus, *Fr.* Lihou Island (Luff).

A. comptulus, *Fr.* Lihou Island (Luff).

A. rubellus, *Gill.* Not British. Closely allied to *A. campestris.* Edible. L'Ancresse Common (Derrick).

Pilosace algeriensis, *Fr.* Extremely rare in Britain, only a solitary specimen having hitherto been found. "Difficult to distinguish in the field from *Agaricus campestris*, except in the absence of a ring." (Massee, Brit. Fung. Fl.) Paradis, Vale (Royle).

Stropharia albo-cyanea, *Desm.* Cobo (Luff).

S. coronilla, *Bull.* Poisonous. Saints' Bay (Miss Boley); Petit Bot (Luff); Norgiots (Le Lacheur).

S. merdaria, *Fr.* Norgiots (Le Lacheur); near Fort Doyle (Luff).

S. semiglobata, *Batsch.* Poisonous. Saints' Bay (Miss Boley); Lower Havelet, Gouffre, Corbière and Grand Havre (Luff); l'Ancresse Common (Hocart); Ivy Castle (Derrick); St. Saviour's (Chutter).

Hypholoma sublateritius, *Schaef.* L'Ancresse Common (Hocart); Rabbit Warren (Luff).

H. capnoides, *Fr.* Near Doyle's Monument (Derrick).

H. fasciculare, *Huds.* Poisonous. L'Ancresse Common (Hocart); Queux, Fermain, Calais and Hubits (Derrick); Vinaires, St. Peter's (Le Lacheur).

H. elæodes, *Fr.* Norgiots (Le Lacheur).

H. dispersum, *Fr.* Near Doyle's Monument (Derrick).

H. velutinum, *Pers.* Near Doyle's Monument (Derrick).

Psilocybe sarcocephala, *Fr.* Coast near Pulias (Luff).

P. semilanceata, *Fr.* Poisonous. Saints' Bay (Miss Boley); Icart Point and Pulias (Luff).

P. spadicea, *Fr.* Norgiots (Le Lacheur).

P. fœniseceii, *Pers.* L'Ancresse Common (Hocart); Bec-du-Nez, Gouffre and Pulias (Luff); Grandes Rocques (Miss Dawber).

Psathyra corrugis, *Pers.* L'Ancresse Common (Hocart).

P. frustulenta, *Fr.* Cobo (Luff).

P. bifrons, *Berk.* Hubits, St. Martin's (Derrick).

P. semivestita, *B. & Br.* Norgiots (Le Lacheur).

Psathyrella atomata, *Fr.* Moulin Huet (Mrs. Boley); Icart Point (Luff); Rocquaine (Le Lacheur).

P. disseminata, *Pers.* Norgiots (Le Lacheur); Vauquiédor (Derrick).

Panaeolus leucophanes, *B. & Br.* Norgiots (Le Lacheur).

P. retirugis, *Fr.* Corbière (Luff).

P. sphinctrinus, *Fr.* Norgiots (Le Lacheur).

P. papilionaceus, *Fr.* Vazon, Cobo, Grandes Rocques, Pulias, Ronceval, Rabbit Warren, Couture, Saints' Bay and Moulin Huet (Luff); Icart Point (Mrs. Boley); Ivy Castle and Delancey Hill (Derrick); St. Saviour's (Chutter).

P. campanulatus, *Linn.* Saints' Bay, Corbière, Pulias and Vazon (Luff); Icart Point (Miss Boley); Norgiots (Le Lacheur); Homtolle, Vale (Collenette).

P. fimicola, *Fr.* Petit Bot cliffs and Cobo (Luff).

Anellaria separata, *Karst.* Cobo and Lihou Island (Luff).

A. fimiputris, *Karst.* Talbots Valley (Luff).

Coprinus comatus, *Fr.* Sausmarez, Castel (Derrick).

Coprinus niveus, *Fr.* Vauquiédor Lane and Grand Havre (Luff).

C. micaceus, *Fr.* Robergerie, St. Sampson's (Derrick); Mielles, Vale (Hocart).

C. deliquescens, *Fr.* Cobo and Vazon (Luff); Norgiots (Le Lacheur).

C. tardus, *Karst.* Corbière (Luff).

C. lagopus, *Fr.* Sous l'Eglise, St. Saviour's (Le Lacheur).

C. radiatus, *Fr.* Lihou Island and Vazon (Luff); Norgiots (Le Lacheur).

C. plicatilis, *Fr.* Near Doyle's Monument (Derrick); Norgiots (Le Lacheur); Saints' Bay, Fermain and Rabbit Warren (Luff).

Boletus chrysenteron, *Fr.* Poisonous. Moulin Huet and Varclin Lane (Miss Boley).

B. fulvidus, *Fr.* Rare in Britain. Norgiots (Le Lacheur); Varclin Lane (Miss Boley).

B. castaneus, *Bull.* Varclin Lane (Miss Boley).

B. edulis, *Bull.* Edible. Havilland Hall (Royle).

B. luridus, *Schaef.* Poisonous. Havilland Hall (Royle).

Polyporus lentus, *Berk.* Rare in Britain. Havilland Hall (Royle).

P. squamosus, *Fr.* St. Peter's (Luff); Norgiots and Fauxquets (Le Lacheur); l'Ancresse (Hocart); Rocques Barrées (Derrick).

P. Rostkovii, *Fr.* Delancey Hill (Derrick).

P. picipes, *Fr.* L'Ancresse Common (Derrick).

P. hispidus, *Fr.* Norgiots (Le Lacheur); King's Mills, Cobo and Ramée (Luff); Castel (Miss Boley).

P. adustus, *Fr.* Ville au Roi (Derrick, Miss Dawber); Forest Road (Luff); l'Ancresse Common (Hocart); Isabel Road, Foulon (Derrick).

P. fragilis, *Fr.* Norgiots (Le Lacheur).

P. armeniacus, *Berk.* Norgiots (Le Lacheur).

Fomes ulmarius, *Fr.* Norgiots (Le Lacheur); near Cobo Church (Luff).

F. fomentarius, *Fr.* A very destructive parasite, especially to beech trees. Norgiots (Le Lacheur); Hermitage, St. Martin's (Mrs. Boley); garden, Burnt Lane, and Fermain Lane (Luff); Haute Lande, Vale (Hocart).

F. salicinus, *Fr.* Jaonnets, St. Saviour's (Le Lacheur).

F. ferruginosus, *Mass.* Rare in Britain. Near St. Martin's Schools (Luff); Norgiots (Le Lacheur).

F. igniarius, *Fr.* Foulon Cemetery (Derrick).

Polystictus versicolor, *Fr.* Bon Air (Miss Boley); Norgiots (Le Lacheur); near Ozanne's Mill (Royle); Queux, Castel, and Foulon (Derrick); Gouffre (Luff).

P. radiatus, *Fr.* Water Lane, Petit Bot (Luff); Norgiots (Le Lacheur).

P. hirsutus, *Fr.* Norgiots (Le Lacheur); Castel (Miss Boley); near Delancey Hill (Derrick); Icart (Luff).

P. tomentosus, *Fr.* Not previously recorded for Britain. Fort Doyle and Pulias (Luff); l'Ancresse Common (Hocart).

Poria vaporaria, *Fr.* Norgiots (Le Lacheur); Sausmarez Lodge, Queen's Road (Derrick); Haute Lande, Vale (Hocart).

P. mucida, *Fr.* Mielles, Vale (Hocart).

P. terrestris, *Fr.* The most primitive form met with in this large genus. Havilland Hall (Royle).

Trametes gibbosa, *Fr.* Foulon (Derrick).

Daedalea quercina, *Pers.* Moulin de Haut, Castel (Le Lacheur).

D. unicolor, *Fr.* Saints' Bay (Luff).

Merulius lacrymans, *Fr.* This fungus is familiar under the name of "dry rot," and is generally common in consort with man. Not known in a wild state. Wine stores, Truchot (Royle).

M. læticolor, *B. & Br.* Rare in Britain. On the ceiling of an out-house in Mansell Street (Luff).

Irpex pendulus, *Fr.* Garden, Indiana, St. Martin's (Miss Boley).

Hydnum repandum, *Linn.* Neuf Chemin, St. Saviour's (Le Lacheur).

H. niveum, *Pers.* Robergerie, St. Sampson's (Derrick).

Cyphella alboviolascens, *Karst.* Near Pulias (Luff).

Stereum hirsutum, *Fr.* A destructive timber parasite. Norgiots (Le Lacheur); Queux, Castel, and Foulon (Derrick); Villette, St. Martin's (Luff); Haute Lande and Mielles, Vale (Hocart).

S. ochroleucum, *Fr.* Norgiots (Le Lacheur).

S. purpureum, *Pers.* Norgiots (Le Lacheur); Talbots Road (Luff).

S. involutum, *Schwein.* Norgiots and Moulin de Haut (Le Lacheur).

S. rugosum, *Fr.* Near Vale Mill (Derrick); Norgiots (Le Lacheur).

S. spadiceum, *Fr.* Queux, Castel (Derrick); Talbots Valley (Luff); Norgiots (Le Lacheur).

Corticium sebaceum, *Mass.* Grande Mare (Luff); Robergerie, St. Sampson's (Derrick).

C. lacteum, *Fr.* Moulin Huet (Derrick).

C. nudum, *Fr.* Fermain Bay (Luff).

C. arachnoideum, *Berk.* Norgiots (Le Lacheur); Foulon (Derrick).

C. sambuci, *Fr.* Norgiots (Le Lacheur); Fermain Bay (Luff).

C. flaveolum, *Mass.* Haute Lande, Vale (Hocart).

C. comedens, *Fr.* Norgiots (Le Lacheur).

Peniophora rosea, *Mass.* Near St. Martin's Schools and Fermain Bay (Luff); Norgiots (Le Lacheur).

P. ochracea, *Mass.* Sausmarez Lodge, Queen's Road (Derrick); Norgiots (Le Lacheur).

Soppittiella sebacea, *Mass.* Fir plantation near Bec du Nez (Luff).

Coniophora arida, *Karst.* Norgiots (Le Lacheur).

Clavaria fastigiata, *Linn.* L'Ancresse Common (Hocart); Lihou Island (Luff).

C. muscoides, *Linn.* L'Ancresse Common (Hocart); Norgiots and Eclet, St. Peter's (Le Lacheur); Ville au Roi and Fermain Hill (Miss Boley); Fort Doyle and Saints' Bay (Luff).

C. coralloides, *Linn.* Saints' Bay (Miss Boley).

C. cinerea, *Bull.* Norgiots (Le Lacheur).

C. cristata, *Holmsk.* Varclin Lane (Miss Boley); l'Ancresse Common (Hocart).

C. rugosa, *Bull.* Edible. Norgiots (Le Lacheur).

C. flaccida, *Fr.* Norgiots (Le Lacheur).

C. fusiformis, *Sow.* L'Ancresse Common (Hocart); Rabbit Warren and Icart Point (Luff).

C. vermicularis, *Scop.* Edible. Norgiots (Le Lacheur); Saints' Bay and Fort Doyle (Luff).

C. fragilis, *Holmsk.* L'Ancresse Common (Hocart); Icart Point (Miss Boley); Pulias, Vazon and Vale Castle Hill (Luff).

C. dissipabilis, *Britz.* L'Ancresse Common (Hocart); Cobo (Luff).

Dacryomyces deliquescens, *Duby.* Petit Bot (Luff).

Dacryomyces stillatus, *Nees.* Norgiots (Le Lacheur).

Tremella mesenterica, *Retz.* Norgiots (Le Lacheur).

T. foliacea, *Pers.* Norgiots (Le Lacheur).

T. atrovirens, *Fr.* Fermain Bay (Luff).

Auricularia mesenterica, *Fr.* Norgiots (Le Lacheur); Queux, Castel (Derrick).

A. lobata, *Sommerf.* Very rare in Britain. St. George and Les Queux (Derrick); Hubits (Miss Boley).

Hirneola auricula-judæ, *Berk.* Fermain Bay (Luff).

GASTROMYCETES.

Clathrus cancellatus, *Tournef.* A very beautiful but extremely offensive fungus. Garden, Orchard Hill, Rozel Road, where specimens sprang up several years in succession. A specimen from another locality also seen (Marquand).

Tulostoma mammosum, *Fr.* Rare in Britain, representing an ancient retiring group. Vazon Bay, towards Richmond, in sandy ground (Derrick).

Geaster striatus, *D.C.* L'Ancresse Common (Hocart); Grand Havre (Luff).

Lycoperdon gemmatum, *Batsch.* Grandes Rocques, Cobo and Lihou Island (Luff); Les Terres (Miss Dawber).

L. pyriforme, *Schaef.* Moulin Huet (Miss Boley); Sausmarez, St. Martin's (Mrs. Boley); Rocquettes Lane (Derrick); Cobo, Pulias and Grand Havre (Luff); Norgiots (Le Lacheur).

L. perlatum, *Pers.* L'Ancresse Common (Derrick); Fauxconnaires (Collenette); Lower Havelet and Vazon (Luff).

L. cœlatum, *Bull.* L'Ancresse Common (Royle); Fermain Hill (Miss Boley); Icart Point (Luff).

L. Bovista, *Linn.* Edible. Garden, Burnt Lane (Luff).

L. plumbeum, *Pers.* Gouffre (Miss Boley); l'Ancresse, Ronceval and Saints' Bay (Luff); Icart Point (Mrs. Boley).

L. nigrescens, *Vitt.* Paradis, Vale (Royle); St. Martin's Cliffs (Derrick).

L. pusillum, *Fr.* Hubit Lanes (Luff).

L. ovalisporum, *Mass.* Grande Mare (Luff); l'Islet (Collenette).

Scleroderma verrucosum, *Pers.* Sometimes used instead of truffles, but a very poor substitute. Saints' Bay and Varclin Lane (Miss Boley); Norgiots and Moulin de Haut (Le Lacheur); Moulin Huet and Bailiff's Cross (Derrick); Rocquettes Lane (Royle); Jerbourg (Mrs. Boley); Les Terres (Miss Dawber); Lower Havelet (Luff).

S. geaster, *Fr.* Varclin Lane (Miss Boley).

Hysterangium nephriticum, *Berk.* Foot of a wall, Bailiff's Cross (Derrick).

ASCOMYCETES.

Sphærotheca pannosa, *Lev.* A destructive parasite to wild and cultivated roses, covering the leaves with a white frost-like bloom. Garden, Burnt Lane (Luff).

S. Castagnei, *Lev.* Indiana, St. Martin's (Miss Boley); Burnt Lane (Luff); rue Poudreuse (Miss Dawber); Fauxconnaires (Collenette).

Erysiphe Martii, *Link.* Garden, rue Poudreuse (Miss Dawber).

E. umbelliferarum, *De By.* Church Lane, St. Martin's (Miss Boley); Havilland Hall (Royle).

Eurotium herbariorum, *Link.* Grande Mare (Luff).

Anixia Wallrothii, *Fckl.* Norgiots (Le Lacheur).

Cordyceps militaris, *Fr.* Norgiots and Rocquaine (Le Lacheur).

Hypocrea rufa, *Fr.* Norgiots (Le Lacheur).

Nectria cinnabarina, *Tode.* Garden, Burnt Lane (Luff); Sausmarez Lodge, Queen's Road (Derrick); Norgiots (Le Lacheur).

N. coccinea, *Fr.* Norgiots (Le Lacheur); Indiana, St. Martin's (Mrs. Boley).

N. cucurbitula, *Fr.* A dangerous parasite to conifers. Norgiots (Le Lacheur).

N. aquifolii, *Berk.* Norgiots (Le Lacheur).

N. sanguinea, *Fr.* Norgiots (Le Lacheur).

N. umbrina, *Fr.* Norgiots (Le Lacheur).

N. ribis, *Rabenh.* Norgiots (Le Lacheur).

Nectriella aurea, *Sac.* La Croix, St. Peter's (Le Lacheur).

Hypomyces chrysospermus, *Tul.* Havilland Hall (Royle), parasitic on *Boletus luridus* and *B. edulis*, giving them the appearance of having been copiously sprinkled with mustard powder.

H. rosellus, *A. & S.* Near St. Martin's Church (Miss Boley); Gouffre (Luff).

Xylaria Hypoxylon, *Fr.* Norgiots (Le Lacheur); l'Ancresse Common (Hocart); Pulias (Luff).

Nummularia Bulliardii, *Fr.* Norgiots (Le Lacheur).

Hypoxylon rubiginosum, *Fr.* Hubits (Miss Boley).

H. fuscum, *Fr.* Norgiots (Le Lacheur).

H. atropurpureum, *Fr.* Rare in Britain. Norgiots (Le Lacheur).

Daldinia concentrica, *Bolt.* St. Martin's (Luff); Norgiots and Vauxbelets (Le Lacheur); Talbots Road and Castel (Miss Boley).

Phyllachora graminis, *Pers.* Vale Castel Hill (Luff).

P. heraclei, *Fckl.* Rabbit Warren (Luff).

Plowrightia ribesia, *Sac.* Norgiots (Le Lacheur).

Valsa salicina, *Fr.* Fermain Bay (Luff).

Bertia collapsa, *Rom.* Not British. Only recorded from Sweden, where it grows on *Sorbus aucuparia* (Mountain Ash). Norgiots, growing on gooseberry and red currant wood (Le Lacheur).

Leptosphæria acuta, *Karst.* Cliffs near Gouffre (Luff).

Geoglossum glabrum, *Pers.* Cobo (Luff); growing amongst the grass where wrack is spread out to dry; the fungus so closely resembles the dried seed-vessels and stems of the sea-weed that it is difficult to distinguish it. Norgiots (Le Lacheur); Ronceval (Luff).

G. difforme, *Fr.* Grais, St. Peter's (Le Lacheur).

G. hirsutum, *Pers.* Norgiots (Le Lacheur).

Otidea aurantia, *Mass.* St. Martin's Churchyard (Miss Boley).

O. luteonitens, *Mass.* In patches of moss. Icart Point (Luff).

Humaria rutilans, *Sac.* Petit Bot Valley and Ronceval (Luff).

H. granulata, *Sac.* Moulin Huet (Luff); Norgiots (Le Lacheur); Haute Lande, Vale (Hocart).

Neottiella polytrichi, *Mass.* Vauquiédor, St. Andrew's, and Sausmarez, Castel (Derrick).

Dasyscypha crucifera, *Phil.* Havilland Hall (Royle).

Lachnea scutellata, *Gill.* Moulin Huet (Miss Boley).

L. pulcherrima, *Crouan.* Not British. On dung, Lower Rohais (Derrick).

Helotium claroflavum, *Berk.* Norgiots (Le Lacheur).

Helotium virgultorum, *Karst.* L'Ancresse, on old wood (Hocart).
Belonidium pruinosum, *Mass.* Norgiots (Le Lacheur).
Ascobolus furfuraceus, *Pers.* Lower Rohais (Derrick).
Ryparobius Cookei, *Boud.* Haute Lande, Vale (Hocart).
Ascophanus microsporus, *Phil.* Haute Lande (Hocart).
A. granuliformis, *Boud.* Haute Lande (Hocart).
A. equinus, *Mass.* Haute Lande (Hocart).
Orbilia coccinella, *Karst.* Norgiots (Le Lacheur).
O. inflatula, *Karst.* Norgiots (Le Lacheur).
Phæangella ulicis, *Mass.* Saints' Bay (Mrs. Boley).
Ascomyces aureus, *Magn.* Rare in Britain. Bon Air, on poplar leaves (Miss Boley).
Zasmidium cellare, *Fr.* The cellar fungus. Wine cellar, Pollet, and wine stores, Truchot (Royle); cellar, Hospital Lane (Collenette).
Hysterium pulicare, *Pers.* Fermain Bay (Luff).
Pilobolus crystallinus, *Tode.* Haute Lande, Vale (Hocart).
Mucor delicatulus, *Berk.* Indiana, St. Martin's, on rotten apples (Miss Boley).
Rhizopus nigricans, *Ehr.* Moulin Huet (Mrs. Boley).
Cystopus candidus, *Lev.* Saints' Bay (Miss Boley); Moulin Huet (Mrs. Boley).
Phytophthora infestans, *De By.* The cause of the destructive scourge known as the potato disease. Only too common.
Pythium Baryanum, *Hesse.* Causes the so-called "damping off" of seedling plants. Very common.
Empusa muscæ, *Cohn.* On dead houseflies in autumn; common.

HYPHOMYCETES.

Monilia fructigena, *Pers.* A very destructive parasite causing the disease called "bitter rot" on apples and pears. Norgiots (Le Lacheur).
Fusidium viride, *Grove.* Varclin Lane (Miss Boley).
Aspergillus glaucus, *Link.* Very common on all kinds of decaying vegetable matter.
Penicillium glaucum, *Link.* On melon rind and on grapes. Indiana (Mrs. Boley).
Rhinotrichum repens, *Reuss.* Talbots Valley (Luff).
Sporotrichum sulphureum, *Grev.* Rare in Britain. On the skin of a mummified cat found under the floor of an old house in the town (Luff).
Botrytis cinerea, *Pers.* Indiana, St. Martin's (Miss Boley); Norgiots (Le Lacheur).
B. vulgaris, *Fr.* Coast near Pulias (Luff).
Verticillium lateritium, *Berk.* Vauxbelets and Norgiots (Le Lacheur).
V. Marquandii, *Mass.*, sp. nov. Parasitic on living specimens of *Hygrophorus virgineus*, forming bright lilac-purple patches on the gills and stem. Norgiots (Le Lacheur); Grandes Rocques, Perelle and Moulin Huet (Luff); Fermain Hill (Miss Boley); Ivy Castle (Derrick); St. Saviour's (Chutter).
Acrostalagmus cinnabarinus, *Corda.* Norgiots (Le Lacheur).
Trichothecium roseum, *Link.* On melon and tomato plants in greenhouses at Fauxconnaires (Collenette); garden, Indiana (Mrs. Boley); Norgiots (Le Lacheur).

Mycogone rosea, *Link.* Isabel Road (Collenette).

Coniosporium olivaceum, *Link.* Norgiots (Le Lacheur).

Torula pulveracea, *Corda.* Norgiots (Le Lacheur).

T. antennata, *Pers.* Norgiots (Le Lacheur).

T. herbarum, *Link.* Moulin Huet (Miss Boley); Norgiots (Le Lacheur); Pulias (Luff).

T. asperula, *Sac.* Not British. Fermain Bay (Luff).

Tetraploa aristata, *B. & Br.* Haute Lande, Vale (Hocart).

Polythrincium trifolii, *Kze. & Schm.* Moulin Huet, on clover (Miss Boley); Richmond, on vetch (Luff).

Cladosporium epiphyllum, *Mart.* Couture (Royle).

C. fulvum, *Cooke.* On tomato plants, causing the "sleepy disease." Common.

Helminthosporium macrocarpum, *Grev.* Saints' Bay (Mrs. Boley).

Heterosporium epimyces, *C. & M.* Parasitic on various Agarics. Grandes Rocques (Miss Boley); Perelle Bay, Grand Havre, Fort Doyle, Ivy Castle and Moulin Huet (Luff).

H. echinatum, *Cooke.* Ivy Castle (Luff).

Macrosporium tomato, *Cooke.* A serious tomato disease; forms dark patches on the ripening fruit. Common.

Fumago vagans, *Pers.* Fauxconnaires (Collenette); forming sooty patches on the fruit and leaves of melons. Moulin Huet, on willow leaves (Miss Boley); Foulon, on lime leaves (Derrick).

Isaria felina, *Fr.* Norgiots (Le Lacheur).

Ceratium hydnoides, *A. & S.* Rare in Britain. Norgiots (Le Lacheur).

Tubercularia herbarum, *Fr.* Indiana, St. Martin's (Miss Boley).

Aegerita candida, *Pers.* Church Lane, St. Martin's (Miss Boley).

Volutella vitis, *Sac.* Not British. Norgiots (Le Lacheur).

Fusarium heterosporum, *Nees.* Havilland Hall (Royle).

F. solani, *Sac.* Norgiots, on a potato (Le Lacheur).

F. epimyces, *Cooke.* Bailiff's Cross, growing on *Hysterangium nephriticum* (Derrick).

F. argillaceum, *Sac.* Not British. Norgiots, on red beet (Le Lacheur).

SPHÆROPSIDEÆ.

Actinonema Rosæ, *Lib.* Garden, Indiana, St. Martin's (Miss Boley). An injurious parasite on rose leaves.

Phoma nebulosa, *Berk.* Moulin Huet (Miss Boley).

P. ampelina, *De By.* The cause of the grape disease known as "shank." Very common.

Phyllosticta hedericola, *Dur. & Mont.* Not British. On ivy leaves, Moulin Huet (Mrs. Boley); Church Lane, Lower Hubits and several other places at St. Martin's (Miss Boley).

Ceuthospora Lauri, *Grev.* Fermain Bay, on holly leaves (Luff).

Vermicularia dematum, *Fr.* Norgiots (Le Lacheur).

HYPODERMII.

Uromyces trifolii, *Lev.* Near Perelle Bay and Rabbit Warren, on living clover leaves (Luff); Lower Rohais, on medick (Derrick). The uredo stage.

Uromyces pisi, *Wint.* Garden, rue Poudreuse, on leaves of edible pea (Miss Dawber). The uredo and telento spore stages both present. The æcidial stage is said to grow on *Euphorbia cyparissias*, but Miss Dawber has ascertained that neither this nor any other large Spurge grows anywhere in the neighbourhood.

U. betæ, *Wint.* On beetroot leaves, Lower Rohais (Derrick).

U. rumicis, *Wint.* Thielles, St. Peter's, on dock leaves (Derrick).

Puccinia primulæ, *D.C.* Talbots Road, on primrose leaves (Luff).

P. graminis, *Pers.* Rocques Barrées, Vale, on oat leaves (Derrick). The uredo stage.

P. coronata, *Corda.* An injurious parasite to cereals, as is also *P. graminis*. Garden, Hauteville, on rye grass (Collenette).

P. obscura, *Schrot.* Rare in Britain. The æcidial stage, on daisy leaves. L'Ancresse and Rocques Barrées (Derrick); Talbots Road and Vale Castle Hill (Luff); Norgiots (Le Lacheur). This stage was formerly described as a distinct plant, under the name of *Æcidium bellidis*.

P. hieracii, *Mart.* On Hypochœris leaves. Thielles, St. Peter's (Derrick); Rabbit Warren (Luff).

P. polygoni, *Pers.* Near the coast at Richmond, on leaves of *Polygonum* (Luff).

P. smyrnii, *Corda.* Delancey Hill, on Smyrnium leaves (Derrick).

P. umbilici, *Guep.* Moulin Huet, on navelwort leaves (Mrs. Boley).

P. malvacearum, *Mont.* Causes the "hollyhock disease." St. Martin's, on hollyhock leaves (Miss Boley); Upper and Lower Castel and Delancey Hill, on mallow (Derrick).

Phragmidium violaceum, *Schultz.* Very local in Britain. On bramble leaves, St. George (Derrick); Ramée (Royle); Vale Castle Hill and Rabbit Warren (Luff).

P. rubi, *Schrot.* On bramble leaves. Thielles, St. Peter's (Derrick); Saints' Bay (Miss Boley); Havilland Hall (Royle).

P. gracile, *Berk.* On raspberry leaves. Indiana, St. Martin's (Miss Boley); æcidiospore, uredospore and teleutospore stages all present on the leaf at same time. Rue Poudreuse (Miss Dawber).

Melampsora farinosa, *Schrot.* Talbots Road, on the under side of living willow leaves (Luff).

M. helioscopiæ, *Pers.* Rue Poudreuse, on Sun Spurge (Miss Dawber).

Coleosporium senecionis, *Wint.* On groundsel. St. George (Derrick); Indiana (Miss Boley); Rabbit Warren (Luff),

C. sonchi, *Schrot.* L'Erée, on sow-thistle leaves, and Moulin Huet, on fragrant butterbur (Derrick).

Ustilago avenæ, *Pers.* Gouffre, on ears of oats (Miss Boley).

U. violacea, *Pers.* On the anthers of sea campion in many places on the coast (Marquand); on bladder campion, Grand Havre (Luff).

MYXOGASTRES.

Dictydium cernuum, *Nees.* Rare in Britain. Norgiots (Le Lacheur).

Stemonitis typhina, *Mass.* Norgiots (Le Lacheur).

Reticularia Lycoperdon, *Rost.* Sous l'Eglise, St. Saviour's (Le Lacheur).

Lycogala epidendrum, *Rost.* On an old door-post, Vale (Luff); Norgiots (Le Lacheur).

Arcyria punicea, *Rost.* Norgiots (Le Lacheur).

Trichia varia, *Rost.* Norgiots (Le Lacheur).

Didymium farinaceum, *Schrad.* Garden, Indiana, St. Martin's, parasitic on *Irpex pendulus* (Miss Boley).

D. clavus, *Rost.* Lane leading down to Divette Bay, St. Martin's (Mrs. Boley).

Spumaria alba, *D.C.* Norgiots (Le Lacheur); Grandes Rocques (Luff).

Tilmadoche nutans, *Rost.* Norgiots (Le Lacheur).

ON THE SUPERFICIAL DEPOSITS OF JERSEY AND GUERNSEY.

BY ANDREW DUNLOP, M.D., F.G.S.

DURING the past few years I have paid some attention to the quarternary geology of Jersey, and it is therefore interesting to me to find that the superficial deposits of Guernsey are being carefully and systematically examined by the Society of Natural Science there. The valuable papers of Messrs. Collenette and Derrick,* and the reports of the Geological Section of the Society show that, as might have been expected, the deposits on the two islands resemble each other closely. In both we have raised beaches at various heights all round the coast, and a few at some distance inland; in both we have the yellow clay, or brick earth, with its contained rock fragments resting on, or including the raised beaches, and in both we have peat and forest beds extending out under our present shores.

In Jersey the earliest recognised and best known raised beach is one found at various points all round the island from spring tide high water mark to above ten or fifteen feet above it, that is to say, from twenty to thirty or thirty-five feet above mean tide level.† Our highest raised beach is that at the top of South Hill, an outlying part of the isolated hill on which Fort Regent is built. It lies in a cup-shaped depression, which looks like the section of a gully or pocket, at the top of a cliff formed by a deep cutting. It consists of tightly packed smooth round pebbles of fine red granite, similar to the rock below, with some sub-angular fragments, and it is covered by yellow clay containing numerous angular and sub-angular blocks.

I had already given the height of this beach as 120 feet above spring tide high water mark,‡ but I became doubtful

* Transactions, Guernsey Society of Natural Science, 1892.

† Owing to the absence of an official datum, the want of a good map giving heights, and the difficulty of getting measurements taken, I am doubtful of the exactitude of many of the levels.

‡ "On Raised Beaches and Rolled Stones at High Levels in Jersey." Quarterly Journal Geological Society, November, 1893.

of the accuracy of this estimate, and at my request Colonel Dove, R.E., was kind enough to make a fresh measurement. He found that the lowest part is 125 feet above mean tide level, or about 105 feet above spring tide high water mark. The top of the depression is some ten or twelve feet higher.

There is a very interesting raised beach shown on the sides of the main road near St. Clement's Church. It is about 600 yards distant from the nearest part of the coast, and its average height is probably some 50 or 60 feet above high water mark. The pebbles are smoothly rounded pieces of diorite and fine red granite, and they lie on decomposing diorite, which slopes, first abruptly, and then gently beneath them. Over this beach is a bed of yellow clay or brick earth, rising with the slope of the ground through which the road is cut, from two or three to about fifteen feet in thickness.

Passing through the middle of this clay there is a straight sloping line of angular fragments of fine red granite, amongst which, the other day, I found a round pebble of the same rock. These fragments are mostly from one to six or eight inches in their greatest length. Near the lower or western end of the section, however, there is a block whose projecting sides measure 1ft. 4in., 1ft. 2in. and 2ft. 7in. respectively. It may be mentioned that the nearest outcrop of granite is 440 feet distant from the block, to the east of the upper end of the section, and some thirty feet above its level.

There are some high level beaches on the north coast of the island, to which my attention has been directed by Mr. G. A. Piquet, but unfortunately I have never found time to visit them. I have seen excellent photographs taken by Mr. Piquet of one attached to the roof of a cave, and one in the upper part of a cave or fissure. They are 35 or 40 feet above the beach which forms the floor, but I am not sure of their height above spring tide high water mark.

In Guernsey the highest beaches do not seem to be covered by clay or head ; but in Jersey, with the exception of those just mentioned on the north coast, and perhaps one on the east coast, all the high level beaches are covered by or embedded in the clay. In one beach, where the pebbles are included in the clay, the stones form a layer a foot or two above the basement rock ; in two other instances there is a great depth of clay beneath the deposit, the exact depth in both not being ascertainable on account of the nature of the section. In one of these there is at least ten feet of clay between the layer of pebbles and the bottom of the section, which is formed by a road, and it probably extends to a

considerably greater depth before the rock is reached. In Guernsey there are apparently instances where a considerable depth of clay overlies a raised beach, and has again a layer of rolled stones on its upper surface. The rolled stones of the beaches in Jersey, as in Guernsey, are, so far as I have observed, derived from underlying or adjacent rocks. In one bed, however, one of those included in the clay, I found a few well rolled pieces of flint. Flint pebbles, it may be observed, occur on our present beach, on the east and south-east of the island, and as I have already suggested,* they may probably have been derived from the denudation of the chalk of the neighbouring part of France. Bonnissent has remarked on the large proportion of flint pebbles in the quarternary deposits of the Departement de La Manche,† and suggests that the chalk formation was probably much more extensive there before the quarternary period, and that great denudation probably took place during the subsidence of this part of Europe.

In Jersey the yellow clay, brick clay, or brick earth extends irregularly all over the island, here and there absent, and in many places deposited to a great depth. It is found over the greater part of the high plateau ground as well as on the low-lying land ; it stretches out to sea under the sand of our shores, and caps some of the islets of the coast. It is well developed on many hill-sides and slopes, and often attains great depth in depressions or pockets on the high ground, as well as on some parts of the level low-lying land on the coast.

It is a more or less clayey loam, varying from a loam to a highly plastic clay, generally fine in grain, but sometimes coarser from admixture of disintegrated granite or diorite. On microscopic examination the grains are generally found to be rounded. The colour is yellow, mostly of a light shade, but it is sometimes darker, with a brown or reddish tinge ; here and there it effervesces with a mineral acid, at least in one locality. It contains "race"—fantastically shaped concretions resembling the *Männchen*, or *Püppchen* of the German *Löss*.

The clay is generally unstratified, but occasionally distinct bedding in fine layers is observed. For example, below the raised beach on the St. Clement's Road, which I have described, where the slope reaches the low ground, there are two sections shown, one on each side of a narrow lane, which show a good example of stratification in fine laminæ, alter-

* Op : cit.

† "Essaie Géologique sur le Département de la Manche," p. 383.

nately yellow and brown. On one side of the road, near a large diorite boulder, besides the fine lamination, the clay also shows two beds of coarse brown loam running through it. These beds are about five inches thick, and the material is evidently disintegrated diorite, derived from the rock on which the adjoining beach rests, and which also probably underlies the clay.

The yellow clay contains nearly everywhere angular fragments of subjacent or neighbouring rocks, the largest and most angular being yielded by the hardest kinds. They vary in size from minute pieces up to blocks of one or two feet in their greatest length, and here and there massive boulders occur. The stones are found mostly in the lower part of the clay, sometimes sparsely scattered through it, and sometimes closely grouped together, or forming a mass at its base. In some places they are spread out in the form of a layer or bed, which is seen perhaps running through the middle of a section. These fragments mostly lie with their long axis more or less horizontal, but they are occasionally found tilted up at a high angle.

Some large blocks have travelled distances—not very great perhaps—but still enough to show that a powerful transporting agent was at work. The one over the St. Clement's beach, already alluded to, is an example. Mr. G. A. Picquet has drawn my attention to an interesting block at Surville, exposed in a roadside section. Here there is a bed of yellow clay, lying on shale with a rubble of small fragments of the rock in its lower part. In this clay, with its lower portion sunk into the rubble, is an angular block of banded rhyolite, whose projecting sides measure 3ft. 2in., 2ft. 3in. and 1ft. 9in. respectively. About 37 feet dlstant in the same section there is another smaller piece of rhyolite, and there are also numerous still smaller, often minute fragments, of the same rock scattered about in the clay. There is evidence of the presence of rhyolite within about a quarter of a mile of this spot, on a higher level, at the top of a gentle slope. I have only observed the banded variety there, however, in some angular fragments in the clay, where the subjacent rock could not be seen, and whether they were portions of it I could not determine.

Smooth, well-rounded pebbles have been found in the clay in Jersey as well as in Guernsey. For example, at a brick work at Mont à l'Abbé, on the high plateau ground, not far from the site of the block just described, at a height of at least 200 feet above spring tide high water mark, and some two

miles from the nearest part of the coast, rounded stones have been found from time to time*. The owner of the works, Mr. Champion, gave me, some years ago, five pebbles which had been taken out of the clay at depths of from five to nine feet. Three were of fine red granite, one was of diorite, and one of felsite (?) Again, at a brickfield at Five Oaks, about 240 feet above spring tide high water mark, three smoothly rounded stones were found near the bottom of the clay, where it attained a depth of from fourteen to twenty feet. These stones, like most of the pebbles found in the clay, were of fine red granite, and one of them, a large fragment of which I saw, must have measured above fourteen inches in its longest diameter. So far, I have not discovered isolated flint pebbles in the clay, though, as already noticed, I have found them occurring in a bed of rolled stones or raised beach included in it. The occurrence of rolled flints at the bottom of the clay in Guernsey is to me an important and interesting fact.

So far as I am aware, the only fossil found in the clay is the lower part of a femur, indentified as that of *Bos primigeneus*. It was found in making a cutting for the Eastern Railway near Pontac, and it is now in the museum of the Société Jersiaise. It may be mentioned, however, that Mr. W. Nicolle (Jurat) has in his possession parts of a remarkable skull, which was said to have been dug out of the clay at La Motte Island. Unfortunately no details of the discovery are now obtainable. There are two portions, the larger consisting of the occipital bone, most of the right parietal, and dome of the left ; while the smaller is formed by part of the frontal bone, with the upper part of the right orbit. The supercilliary ridge is strongly developed, and the forehead is low and retracting, recalling the Canstadt type. So far as could be ascertained the cephalic index was 74·3. It may be noticed here that in the low-lying district on which most of the town of St. Helier is built the yellow brick earth lies on blue clay. This is a tenacious true clay, which has accumulated to a considerable depth. Many years ago Mr. Green, a well-sinker, gave me the subjoined section† :—

Yellow clay	15 feet.
Large angular gravel	15 inches.
Stiff blue clay	27 feet.
Blue sand, with rounded and sub-angular rock fragments	a few inches.

* See "On Raised Beaches and Rolled Stones at High Levels in Jersey."—Quarterly Journal Geological Society, November, 1893.

† "On Jersey Brick Clay."—Quarterly Journal Geological Society, Feb., 1889.

The relationship of this clay to the raised beaches I have not yet had an opportunity of trying to work out.

On the low ground of St. Helier beds of peat and blue clay lie on the yellow clay. Peat beds, with trunks of trees, "submarine forests," are also found on our shores, exposed at low water, or deep beneath the sand.* These beds, like others of the same kind in Guernsey and on the coasts of the British Islands and northern and north-western Europe, have yielded Neolithic pottery and implements and remains of *Bos longifrons*. They are the contemporaries, or indeed form part of the peat beds of the European coasts, and were formed when the land stood at a higher level, and extended further seaward. One or two observations, if they are correct, would seem to show that there may be some peat beds older, or that some of the clay may be more recent than we should otherwise be disposed to believe. For example, Austen† states that "In the same island (Guernsey) trees lie in the sub-ærial mass.‡ In sinking a well through that at St. Pierre, after traversing 30 feet, the workmen reached what they supposed to be the solid granite on which it rested. The work was continued, when the obstruction was found to be a large block included in the superficial beds; beneath it was the stem of a large tree which had to be cut through." Also, in making the excavation for the New Markets at St. Helier, yellow clay with angular blocks was found to cover beds of peaty mould, blue sandy clay and peat.

It was to be expected that the quarternary deposits of Jersey and Guernsey would resemble each other more or less closely, but these beds have also what appear to be their equivalents all along the coasts of the Channel, and often at a considerable distance inland both in France and England. On the south coast of England there are raised beaches overlaid by a deposit resembling or analogous to our yellow clay with rock fragments—the "head" of various geologists, and the "rubble drift" of Prestwich, who has given us the latest and most detailed description of it.§ Prestwich has also

* Peacock: "Sinkings of Land."

Le Cornu: "Recueil des Matières Historiques touchant les evanhissement de la Mer, &c." Bull. Ann. Soc. Jersiaise, 1883.

Noury: "Forêts Sous-marines." Compte Rendu du Congrès Scientifique Internationale des Catholiques, 1891.

Dunlop: "On some Jersey Peat Beds." Bull. Ann. Soc. Jersiaise, 1896.

† "On the Superficial Accumulation of the Coasts of the English Channel." Quarterly Journal Geological Society, Vol. VII., p. 131.

‡ The yellow clay, which he believed to be the result of sub-ærial disintegration.

§ "On the Raised Beaches and Head or Rubble Drift of the South of England." Quarterly Journal Geological Society, May, 1892.

described a bed of this kind in Cambridgeshire, at about 407 feet above the sea level.*

Belt, in describing the superficial deposits of Devon and Cornwall,† says that "near Okehampton, on the northern part of the moors, the bed rock is composed of hardened shales and sandstones. The sides of the hills are covered with a stony clay, sometimes as much as 30 feet in thickness, containing many large angular blocks of stone, especially near to and on the surface. Amongst these, blocks of granite, which must have been brought at least two miles, are not infrequent."

He says that on the eastern side of Dartmoor Mr. St. Omerod has noticed beds of gravel reaching up to 900 feet above the sea, and has given instances of many transported blocks of granite and carboniferous rocks. Mr. Belt thinks that floating ice was the transporting agent.

The south-east of England is largely covered with gravel and drift, with brick earth and loam. Many of the beds have been traced to fluvialite action, but those on the high ground, reaching sometimes to 800 or 900 feet above the sea level, the "pebble gravel," the "plateau drift," the "southern drift" must be referred to other and more general causes, and, with regard to this, there is a variety of opinions.‡ Most geologists seem to believe these beds to be of pre-glacial or glacial date, while Prestwich thinks the rubble drift is post-glacial.

It is to be noted that blocks of rock foreign to the locality have been found in these high level drifts. Also, long ago, Dr. Mantell, in his "Geology of Sussex," pointed out the existence of rolled stones of porphyry, greenstone, granite and other far transported rocks in the raised beach near Brighton, which underlies the celebrated "Elephant Bed," a deposit of rubble drift. Prestwich states that in the rubble drift, or its equivalent, on Hayling Island and near Worthing there are

* "On a Peculiar Bed of Angular Drift on the Lower Chalk High Plateau between Upton and Chilton." Quarterly Journal Geological Society, May, 1882.

† "On the Drift of Devon and Cornwall." Quarterly Journal Geological Society. Feb. 1876.

‡ Murchison: "On the Distribution of the Flint Drift of the south-east of England, &c." Quar. Jour. Geo. Soc., Vol. VII., p. 349.
Austen: *Cp. cit.*
Reid: "On the origin of Dry Chalk Valleys, and of Combe Rock." Quar. Jour. Geo. Soc., Aug., 1887.
Prestwich: "On the relation of the Westleton Beds, or Pebbly Sands of Suffolk, and those of Norfolk, &c." Ibid, Feb. and May, 1890.
Irving; "Note on the Plateau-Gravels of East Berks and West Surrey." Ibid, Nov., 1890.
Prestwich: "On the Formation and Drift Slopes of the Darent Valley." Ibid, May, 1891.
Elsden: "On the Superficial Geology of the Southern Portion of the Wealden Area." Ibid, Nov. 1887.
Whitaker: "Geology of London," in Mem. of Geological Survey, 1889.
Monkton: "On the occurrence of Boulders and Pebbles from the Glacial Drift in Gravels south of the Thames." Ibid, Aug., 1893.
Shrubsole: "On the Plateau Gravel south of Reading." Ibid, Aug., 1893.

fragments of granite, syenite, schist, diorite, porphyry, slate and conglomerate. The plutonic rocks may have come from Cornwall, the Channel Islands or Brittany, and all of them must have travelled long distances.

In the north of France the *diluvium* seems to be the equivalent of our clay.

Bonnissent describes it in the département de la Manche,* where it contains angular and rounded fragments of neighbouring and underlying rocks, as well as the remains of extinct quarternary mammalia. The stones have sometimes been carried some kilomètres.

Dupont,† in describing the superficial geology of the neighbourhood of Dinant, in Belgium, gives the following section :—

1. Dépôts actuels, tourbes, eboulis, etc.
2. Limon homogène, ou terre-à-briques.
3. Dépôt à cailloux anguleux.
4. Limon stratifié, ou fluvial.
5. Dépôt à cailloux roulés.

The *dépôt à cailloux anguleux* consists of loamy clay, containing numerous angular fragments of neighbouring rocks, and this, together with the brick earth above, forms a deposit very like our yellow clay. It is apparently, however, of later date than the rubble drift of England, or the *diluvium* of northern France, for it has only yielded the remains of the reindeer, chamois, deer and horse. The *dépôt à cailloux roulés* below contains, like the rubble drift, the bones of the extinct mammalia.

Prestwich‡ has described the occurrence of rubble drift not only in England, France and Belgium, but also on the coasts of Spain, Portugal, Malta, Greece, Crete, Turkey, &c. Where raised beaches occur in these localities they underlie the drift, as they do further north. It appears to be somewhat open to question, however, whether all the deposits he mentions are really homologous, and can be accepted as true equivalents of each other.

Quarternary geology is full of unsolved problems and unsettled questions, and no part of it has given rise to so much discussion and to so many conflicting theories as the superficial deposits south of the glaciated area. So far as concerns these deposits in the Channel Islands, we have, to begin with, clear and conclusive evidence that Jersey and Guernsey were

* "Essaie Geologique sur le Département de la Manche," p. 377.

† "L'homme pendant les âges de la Pierre."

‡ "On the Evidences of a Submergence of Western Europe, &c." Phil. Trans., Vol. II., 1893, p. 917.

submerged during some part of the quarternary period. Both islands present a series of well washed raised beaches, the highest yet noticed in Guernsey being about 76 feet, and the highest in Jersey 125 feet at its lowest part above mean tide level, while the rolled stones found in the clay on the high plateau ground of both islands give reason to believe that the submergence was greater than that indicated by the raised beaches, and that both islands were entirely, or almost entirely, under water. The yellow clay or brick earth of the islands was, I think I am safe in saying, formerly considered by most if not all geologists to have been produced *in situ* by the subærial decomposition of the rock on which it lay, and in places spread out by rain wash.

When I endeavoured to show in a paper read before the Geological Society* that this could not be true of at least a very great part of the clay, and that it was mostly, if not entirely, an aqueous deposit, my views met with little acceptance. In some of the higher parts of the island it has seemed to me that the clay, or at least its lower portion, is the result of *in situ* disintegration, and very possibly it was all originally produced by the decomposition of local rocks; but there can be no doubt that most of it has been carried and deposited where it is now found lying. This is shown by the fact that the clay may be found lying on perfectly undecomposed rock, on blue clay, and on the raised beaches; and also by its containing fragments of rocks other than that on which it rests. That it is an aqueous deposit, one laid down by or under water is, I think, shown by its rounded grains, by the stratification it occasionally exhibits, and by its sometimes including raised beaches or parts of them, and containing rolled waterworn stones. Also, the position of some of its contained blocks, held up at an angle, and the occurrence of layers or beds of rock fragments seem to me to strengthen and confirm the other evidences of aqueous deposition. The view that the clay was deposited under water, or that water, in one way or another, was the agency by which it was transported or spread out, would probably be generally accepted, but the exact mode of its deposition, and the conditions under which it was distributed, as well as its precise geological date, appear to me to be questions which are very far from being settled.

The moving force which spread it out over slight slopes and level ground must have been a powerful one, or one involving more than aqueous transport pure and simple. As we have seen, some of the large blocks it contains have been

* "On the Jersey Brick Clay." Quarterly Journal Geological Society, Feb., 1889.

carried considerable distances, and the clay, with its included fragments, has been deposited far beyond the foot of the slopes. For example, to take an instance I have already brought forward,* and which has also been noticed by Prestwich.† La Motte or Green Island is an islet off the south-east coast of Jersey, surrounded at about half-tide. It has a base of hard, unweathered, undecomposed diorite, on which lies some ten to fifteen feet of yellow clay, containing a few angular and sub-angular fragments of diorite and red granite. La Motte is some 300 yards beyond spring tide high water mark, and inland the ground is perfectly level for about half a mile before it begins to rise very gently to the high table land. Such an instance alone, without reference to other evidence, would put the mere action of rain wash entirely out of the question.

As is well known, Prestwich maintained‡ that in post-glacial times a subsidence of western Europe and the Mediterranean coasts took place. After a short period of submergence there was a sudden upheaval, or the land rose by a series of sudden lifts. This produced a rush of water off the rising ground, and the tumultuous currents swept down the surface debris and deposited it at varying distances. This deposit is the "rubble drift," of which our yellow clay, or brick earth, with its fragments, forms part. Strong affluent currents, caused by a sudden upheaval of our islands, would certainly go far to explain many of the characteristics of our clay and its contents, more especially its appearance on the hill sides, and its wide spread. But such a rush of water, or even a series of rushes, would hardly, I think, be sufficient to account for the rounding of its constituent grains, nor would the fine stratification occasionally observed be at all likely to be laid down by a rapid, headlong current. Again, it is difficult to see how the raised beaches, or at least beds of rolled stones, found in the body of the clay, could be deposited under such conditions, and also the presence of flints would not be accounted for, unless under the supposition that they had been already deposited during a previous submergence. In this connection it may be remembered that pieces of granite and other rocks, originally far from the locality, have been found in the rubble drift or its equivalent near Worthing and on Hayling Island. The rush of water caused by sudden upheaval would not be sufficient to account for their presence there.

* "On the Jersey Brick Clay." Op. cit.

† "On the Evidences of a Submergence of Western Europe, &c." Op. cit.

‡ See papers already referred to, also his book "The Tradition of the Flood."

Mr. Collenette* makes an ingenious suggestion as to the origin of our clay. He thinks, as I do, that these islands shared in the wide-spread subsidence which took place during the glacial period, and that following this submergence came a time of elevation and glaciation, during which, under the action of cold, the decomposed and weathered rocks broke up and formed rubble and clay. "Then," to quote his own words, "came a period of comparative heat, with great melting of the ice in successive summers, and re-glaciation in successive winters, washing down clay and sand from the decomposed rock, filling up hollows and the interstices of the rubble of the cliffs, spreading it out over the planed rocks, filling up the lower valleys, in fact, using an immense mass of decomposed material left on the top of the island by the sea to cover all the lower levels with sand and clay."

But the wash from glaciers could not well have laid down the clay on the plateau, the high table land of the islands, nor could it have deposited the bed covering the raised beach on the top of South Hill, for the Mont de la Ville, of which South Hill forms part, is an isolated hill, or detached piece of the table land, and out of the reach of any such flow. Again, it does not seem likely that the deposit on La Motte Island could be due to this cause. Had the island been opposite the mouth of a valley, far as it is from the hill sides, it might have yet been just possible, but it lies off a long stretch of low-lying land. The presence of beds of rolled stones in the clay seems to me also to be an objection to this theory, and to that of Prestwich.

I do not feel prepared to add another to the many theories already put forward as to the origin of the rubble drift and its congeners, but perhaps I may venture to make a suggestion with regard to the yellow clay of our islands.

During the early and coldest part of the glacial period, and probably for ages before, Jersey and Guernsey stood at a higher level than they do now, possibly forming part of the mainland. During all this time the rocks were being weathered and disintegrated, the process being intensified when the cold grew severe by the action of frost and ice, so that the surface, latterly greatly denuded of vegetation, became covered with loam and rock fragments. The islands then shared in a submergence† affecting at least the greater part of the British Islands and the north of France, and which

* Presidential Address. Guernsey Society of Natural Science, 1895.

† In my paper on the Raised Beaches of Jersey, by an oversight in correcting the proof, I am made to say that I believe the submergence to have taken place in late *post*-glacial times; it should have been late *glacial* times.

possibly took place when the climate had grown somewhat milder. As the land went slowly down the raised beaches were formed, and as they also sank beneath the water, tidal currents and floating and shore ice covered them with loam and rock fragments, which were also spread out long distances seawards.

But this is only a provisional hypothesis, and has not, so far at least, much positive evidence to support it. However, this much at least seems sure, that these islands were partially or totally submerged during the quarternary period, and that after this submergence they rose again with the rest of the area that had been under water to a height considerably above the present level, and that this time of elevation or part of it was coincident with the Neolithic period. The peat and forest beds give evidence of this higher level of the land.

Let us hope that further study of our superficial deposits may lead to a better knowledge of the quarternary geology, not only of our island, but of the whole channel area, and I look forward with great interest to the results that may be expected from the careful and systematic work that is now being done by the Guernsey Society of Natural Science.

GUERNSEY PROVERBS AND POPULAR SAYINGS.

CONTRIBUTED BY MR. J. S. HOCART, LES MIELLES, VALE.

———o———

Qui baille et n'a pas d'fain
A soumeil ou n'est pas sain.
He who yawns and is not hungry, is either sleepy or unwell.

Ch'est dans les p'tits paquets qu' les bouanes épices sont.
It is in small parcels that the best spices are.

Said when quality is preferred to quantity.

Ch'est un violon s'accorde a tout son.
A fiddle that plays to all tunes.

Said of flatterers.

Ill y'a pusd'gens ignorans,
Que de ch'vaux Chrétiens.
There are more ignorant persons than Christian horses.

Là où l'vier ch'va s'roulle ill y laisse du pel.
Where the old horse rolls himself he will leave hair.

Wherever rich people go they are sure to leave some of their money behind them.

Tai-té, tai-té, l'hiver taïra,
Coumm' disait Tourgi à sen ch'va.
Wait, wait, winter will overtake you, as Tourgi said to his horse.

Said by old people to young ones when they tease them; meaning that their turn to be old will come in due course.

La bête de la gie.
A horse to be relied on.

The horse that was hitched on with the oxen on the near side, in ploughing, to guide them in turning the corners,—said of persons that can be trusted.

Un ch'va dounait nou n'lli r'garde pas est dents.
It is a breach of civility to look at the teeth of a given horse.

Quand les vaques juqurons dans les poummiers.
When the cows roost in apple trees.

A thing indefinitely put off, and not likely to happen.

I n'est pas avis a vielle vaque aver jamais étai viau.
It does not seem to an old cow that she ever was a calf.

Said of persons who are annoyed when children enjoy themselves.

Changent d'herbage est bouan à jane viaux.
A change of pasture is good for young calves.

A change is good for young people.

Cat engantait n'atrape pas d'souaris.
A cat with gloves on cannot catch mice.

Said of persons who wear gloves in working so as not to soil their hands.

Les pots découverts font les cats larrons.
Uncovered pots will tempt cats to steal.

Unn' souaris entre chinq cats.
A mouse among five cats.

Said when there are many to share and little to take.

Ch'est mauvais seigne quand les viers cats joue.
It is a bad sign when old cats play.

It is said to foretell a storm.

Il a les sept vies d'un ner cat.
He has the seven lives of a black cat.

Said of a person who has a long and lingering illness.

Demande à m'en compagnon si j'sie larron.
Ask my companion if I am a rogue.

Les longs discours
Font les jours courts.
Long chats will make days short.

La pliie et l'vent sont près parent.
Wind and rain are closely related.

Qu'à un bouan jour en sa vie n'a pas terjous malheur.
He is not entirely unfortunate who has one good day in his life.

Chier coumm' paivre
As hot as pepper.

Quasi, garde souvent d'menti.
Almost, often keeps from telling a lie.

Sain coumm' une clloque.
As sound as a bell.

Les coutiaux crouaisis c'hest seigne de quérelle.
Crossed knives are a sign of quarrel.

Coumm' un œuf tout frais pounu.
As fresh as a new laid egg.

I faut halaïr sus les viers tandis qui dure.
Make use of old people while they last.

Il est, âne de nature,
Qui n'peut llière s'n'écriture.
He must be a donkey by nature who cannot read what he has written.

Ill a une mine coumm' un us d'prison.
He has a face like a jail door.
Said of a person with a scowling face.

Laid, coumm' le péché du Dimanche.
Ugly as Sunday's sin.

An expression of contempt used by ladies concerning dress materials which are not to their taste.

Un dégrai et un padin
A la mode de St. Martin.
A step and a stair as is the custom of St. Martin.

Said of anyone whose underskirt is longer than her dress.

Quand les voleurs c'menche a oignet,
L's'hounette gens r'trouve leu droit.
When rogues quarrel honest people come to their right.

I coprai un double en quatre.
Cutting a double in four.

Said of a mean person. A *double* is the eighth part of a Guernsey penny.

Embarraissai coumm' la poule qui n'a qu'un pouachin.
As busy as a hen with but one chicken.

Vaut mue être paure poucqton, que riche frippon.
Better be poor and honest, than be rich and a rogue.

Marie-té ou n'te marie pas
Tôt ou tard tu t'en r'pentiras.
Whether you marry or remain single, sooner or later you will repent.

I n'y'a paure fagot qui n'trouve sa liache.
A faggot is never so worthless but that something can be found to bind it with—or there is not a Jack without a Gill.

La f'rine du Gyablle r'tourne en bran.
The Devil's meal turns to bran—or ill-gotten wealth will disappear.

J'aïme mue vée ses talons q'ses orteis.
I would sooner see his heels than his toes.

Said of an unwelcome visitor.

Y i'à bien d's'iers en tête,
Qui n'en verons pas la fête.
There is many a bright eye that will not see the feast day.

Said when persons mention the length of time there is before a coming holiday.

Argent d'guerre n'a pas d'serre.
War money has no rest—prize money was often soon spent.

I mange sen pain d'froment.
He is eating his wheaten bread.

Said of young persons who are enjoying life.

P'tit paquet long ch'min coûte.
A small packet becomes troublesome on a long journey.

Tout bouais y'est bûche.
One to whom nothing comes amiss.

Il a mis l'épile au gic.
He has set the ball rolling.

Quand les barbiers s'entre raze.
When barbers shave each other—or diamond cuts diamond.

Chacun à sen touar monte en carrosse.
Each in his turn drives in a coach—or chances and changes come to all.

Mort voulue
Est d'longue venue.
A wished-for death is often long delayed.

Dounait un peis pour aver une faive.
Giving a pea to get a bean—bestowing small favours in hope of receiving larger ones.

Gras coumm' un pain d'si.
As fat as a lump of suet.

Maigre coumm' un chent d'cllaou.
As lean as a packet of nails.

Jaune coumm' une quezette.
As yellow as a jonquil.

Said of persons afflicted with jaundice.

Daeux gros os n'peuve bouidre dans un p'tit pot.
Two big bones cannot boil in one small pot.

Said of rivals.

Qui se r'semble, s'assemble.
Birds of a feather flock together.

J'ai mal à la tête
Chez l'pu haut d'la bête,
Si monte pu haut I s'en ira.

Persons complaining of a headache are often consoled with the remark that the head being the highest part of the animal, if the pain mounts higher it will go away altogether.

Débottai, Collas Allez,
Qu'a vendu ses guertières,
Pour aver unn' feis à bère.

A rhyme of derision used to anyone who has his boots unlaced and stockings down.

Il en reste assai pour tous les Tost'vins.
There is enough left for all the Tostevins.

This expression is used when plenty of food is left on the table after meals.

This saying had its origin as follows:—In times gone by it was the custom for workmen to have their meals provided at the houses where they were employed. There was a family of Tostevins who were masons by trade, and who had the reputation of being specially big eaters, so that those who engaged them had to provide extra fare to satisfy their appetites.

Il a fait coumm' Jean Letocq.
He has done like John Letocq.

Said of persons who get up earlier than usual.

The origin of this saying is that one morning in the spring of 1372, one Jean Letocq got up earlier than usual to look after his sheep; when he got near Vazon Bay he saw that a number of Frenchmen or Sarragousais had landed to invade the island, and he at once gave the alarm to his fellow-countrymen.

La ribotterie d'Pierre Couzin,
Qui n'avait ni but ni fin.
Peter Couzin's churning, to which there was no ending.

This is said when the churning is unusually protracted, often caused by the cream not being set to the right temperature. "Coumm' les ribottresses d'Pierre Couzin" is also said of persons who attempt to do what they know nothing about. The origin of these sayings is explained as follows:—Pierre Couzin was a farmer living at the Vale, whose customers constantly complained of the high price of his butter. Weary of these grumblings, Pierre at last hit on a plan to silence them. He invited his lady friends to come from Town and see for themselves what immense labour was needed in the butter-making. So they duly arrived at his dairy on the next churning-day, and Pierre was determined that he would not let them off too easily. Like Jean Letocq, he had taken the precaution to get up that morning extra early, and had churned the milk and made the butter and removed all traces of the work before the visitors arrived. Then he got the buttermilk, which had already yielded up its produce, in readiness for the town ladies, and they unsuspectingly took the handle of the churn. They set to work, and they churned and they churned, and they churned, as the weary hours went on; all day by turns they toiled and waited, but there was never a sign of the butter coming. Discouraged at last, they gave it up and returned home, if not wiser women, at least sadder ones, while the artful Pierre laughed in his sleeve. Next day, as usual, he appeared in the market with his butter, and explained that he had kept on churning until at last the butter was made. From that day Pierre Couzin had no more complaints of the price of his butter, seeing that its manufacture was evidently so difficult.

I se r'souvint à Robin d'sa flûte.
Robin bethought himself of his flute.

Although this quotation is found in Littré's well-known French dictionary, there is an amusing local tradition in the Vale parish as to its origin. The legendary Robin used to go and play his flute at merry-makings. During the time of a serious visitation of the plague, Robin one night had been to one of these festive gatherings, and had indulged far too freely in mulled wine. On his way home the fumes

of the treacherous compound overpowered him, and he fell asleep by the way side. During this fatal sickness the bodies of the plague-stricken were gathered up at night and taken in carts to the Maladrie, which was situated near l'Islet. Hence, when one of the dead-carts passed where Robin was lying—in those times it was nothing uncommon to find dead persons in the roads—they picked him up and placed him in the vehicle among the dead. But the jolting awakened him, and not knowing where he was he remembered his flute and struck up a tune. The driver in terror took to his heels and fled, but an attendant—armed with Dutch courage - cried out "Stop that noise, don't you know that you are a dead man." Robin, realizing his position, and discovering the company he was with, jumped in horror from the death-cart, and made such good use of his legs, that he was able to play his flute on many a subsequent occasion.

I sont à ramender leu souffllets.
They are mending their bellows.

Said when a storm of wind has lulled for a time, but with the probability of another blow coming on.—That is the elements are resting in preparation for a further disturbance.

GUERNSEY

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AND

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Tourtel, Rev. R. H., D.D., Torteval.
Weygang, Mr. L. G., Smith Street.

TRANSACTIONS OF THE SOCIETY.

Monthly Meeting held on January 19th, 1898, Mr. G. Derrick, President, in the chair.

Owing principally to an amount of sickness in the island, the attendance was small.

Dr. and Mrs. Lidderdale and Miss E. Collenette were unanimously elected members of the Society.

The Hon. Secretary acknowledged the receipt of the "Proceedings of the Academy of Natural Science, Philadelphia," Part II., 1897.

The Hon. Secretary was requested to thank, on behalf of the Society, Mr. Geo. Massee for his invaluable assistance in naming *Fungi*, and Rev. W. Moyle Rogers for similar assistance with the *Rubi*.

During the month of December, 1897, forty-three new species of *Fungi* were added to the list for Guernsey. One of these is new to science, and has been named by Mr. Geo. Massee, of Kew, *Omphalia Luffii*, in honour of its discoverer, Mr. W. A. Luff, who found it at Icart Point on January 3.

Monthly Meeting held on February 16th, 1898, Mr. G. Derrick, President, in the chair.

Mrs. Derrick was elected a member of the Society.

The President read a letter from Mr. Massee, of Kew, acknowledging the vote of thanks for help rendered to the Society in naming Guernsey *Fungi*.

Mr. W. A. Luff exhibited coloured drawings by Mr. Massee of *Clitophilus Sarnicus* and *Omphalia Luffii*, the two species of *Fungi*, new to science, recently discovered by Mr. Luff in Guernsey. Mr. Luff also exhibited swollen and diseased buds of the black currant caused by the currant bud mite, *Phytoptus ribis*.

Rev. R. H. Tourtel, D.D., read an abstract of his paper on "Ancient Names of Rocks, Bays, Creeks, &c., in Guernsey and Sark." This was followed by an interesting discussion.

Monthly Meeting held on March 16th, 1898, Mr. G. Derrick, President, in the chair.

Mr. A. Collenette read a communication from Mr. J. J. Carey relative to the finding of beach stones at some depth under gravel in his garden at Claire Mare, and other items relating to the coast line of the island.

Mr. A. Collenette exhibited a polished section of a boulder of contorted *Augen gneiss*, found by himself at La Vallette, the remaining portion being deposited in the British Museum.

Mr. W. A. Luff exhibited a specimen of the beetle *Ptinus fur*, captured on March 1. It is new to the Guernsey list.

Mr. A. Collenette exhibited examples of the tick *Ixodes erinaceus* taken off a cat.

The President read an article by Rev. W. Moyle Rogers, F.L.S., and F. A. Rogers, published in the *Journal of Botany* for March, on "The *Rubi* and *Rosæ* of the Channel Islands.

The President then opened a discussion on his paper on "Guernsey in Prehistoric Times," in which many of the members took part. During the discussion Mr. Collenette exhibited several flint and bronze implements found at various times in the island, and kindly lent by Captain Lukis, from the Lukis Museum.

Monthly Meeting held on April 20th, 1898, Mr. A. Collenette, Vice-President, in the chair.

Mr. Albert Hodges, of Delancey Hill, was elected a member of the Society.

There being so few members present, no further business was transacted.

Monthly Meeting held on May 18th, 1898, Mr. A. Collenette, Vice-President, in the chair.

Mr. Th. De Mouilpied and Mr. W. Hopgood, Le Châlet, were unanimously elected members of the Society.

Mr. Luff exhibited a flint arrow head found at La Croute Havilland.

Mr. Collenette exhibited the bones found in the peat at l'Ancresse on April 8, and which had been identified by Dr. Woodward, of the Natural History Museum. These included lower jaw of *Sus scrofa*, toe bone of *Bos taurus*, lower jaw,

frontal bones of skull, ribs and limb bones of *Capra hircus*, jaw bone of *Cervus elaphus*.

The Chairman read a letter from Mr. E. D. Marquand urging the advisability of publishing records of the temperature of the island in the future numbers of the *Transactions*.

Mr. Luff exhibited a specimen of the carnivorous beetle *(Panagæus quadripustulatus)* recently taken on the cliffs.

Mr. S. Le Cocq presented to the Society copies of the Proceedings of the Holmesdale Natural History Club for the years 1890-95.

Monthly Meeting held on June 15th, 1898, Mr. A. Collenette, Vice-President, in the chair.

The minutes of the previous meeting were read and confirmed.

Mr. W. A. Luff exhibited specimens of the Mole Cricket, *Gryllotalpa vulgaris*, captured during the month near Cobo, also a specimen of the fine Dragon Fly, *Anax formosus*, captured in Vauvert Road. Mr. Luff then read the following extract from the Transactions of the British Mycological Society for the season 1896-7 :—

"Little or nothing is recorded up to the present respecting the Mycology of the Channel Islands. During the past season, thanks to the intervention of Mr. E. D. Marquand, numerous consignments of *Fungi* have been forwarded to Kew for determination from Guernsey. Over 500 species have been determined, several of which are new to Britain, and three, *Clitophilus Sarnicus* (Mass.), *Verticillium Marquandii* (Mass.), and *Omphalia Luffii* (Mass.), are new to science.

"The preponderance of species belonging to the genus *Hygrophorus* is remarkable, and the Channel Isles must be considered a new area, rich in species, and interesting as forming a link between the Mycologic floras of England and France."

Mr. A. Collenette exhibited various bones found in the peat at l'Ancresse, and described in the geological results of the last two excursions.

Rev. G. E. Lee stated that peat was found on the shores of Brittany under exactly the same conditions as in Guernsey.

Rev. Lee then gave a description of the Dolmens of Brittany, many of them of enormous size. One of these, which he measured, was 40 feet by 8 or 9 feet wide by 9 feet long. Whilst in the south of Brittany the speaker made a discovery. He found cup-marked stones in every direction,

on the stones of houses and churches. He at first thought that these houses had been built with stones from the Dolmens, but the number of cup-marked stones was so numerous that he changed his opinion. These markings occurred mostly on thresholds, on window sills and on stone seats in houses built from the 14th to the 17th century, and were probably made at the time of the building of the house, and served as sacred symbols to keep off evil spirits.

A very interesting discussion followed Mr. Lee's remarks.

Monthly Meeting held on July 20th, 1898, Mr. G. Derrick, President, in the chair.

The minutes of last meeting having been read and signed, the Secretary announced the receipt of

a Proceedings of Academy of Natural Sciences of Philadelphia, 1898, Part I.

b The Land Mammals of Peninsular of Florida and the Coast Region of Georgia.

Mr. A. Collenette exhibited specimens of calcite which was found in large quantities in digging a well.

Mr. Luff exhibited several specimens of the Brown Tail Moth, *Liparis chrysorrhœa*, bred by Rev. F. E. Lowe from English ova, and *Orgyia fascelina*, the Dark Tussock.

The work done at the excursions was then described by the Sectional Secretaries, and a discussion followed.

Monthly Meeting held on September 21st, 1898, Mr. G. Derrick, President, in the chair.

After reading the minutes of last meeting, the Secretary announced the receipt of

a Smithsonian Report of the U.S. National Museum, 1895, from Smithsonian Institution.

b On the Veins of the Wolffian bodies in the Pig, by C. H. Minot.

c Notes on a Carboniferous Boulder Train in Eastern Massachusetts, by M. L. Fuller.

d The Genus Antennaria in New England, by M. L. Fernald.

e Proceedings of the Annual Meeting, May 4, 1898, from the Boston Society of Natural History.

f The Odonate Genus Macrothemis and its Allies, by P. P. Culvert.

Mr. Luff exhibited two fine specimens of Sphinx Convolvuli (Convolvulus Hawk Moth), which is abundant this year.

The Secretary exhibited specimens of a small crustacean.

Mr. Royle reported the Kingfisher seen at the Watermill Valley, S. Saviour's. The same gentleman also presented to the Society a photograph of the *Orchis laxiflora*.

Mr. A. Collenette gave a most interesting account of his recent visit to Karnac and neighbourhood, describing the different kinds of prehistoric monuments, illustrating his remarks with photographs.

Monthly Meeting held on October 26th, 1898, Mr. G. Derrick, President, in the chair.

After the reading of minutes of last meeting, Mr. Hocart exhibited a number of quartz crystals from the Corvée Quarry, Vale. Many of these have an amethystine tint.

Mr. Luff exhibited a specimen of *Adela violacea*, a moth new to the British list, captured in Guernsey.

Miss Collings exhibited a crustacean, *Inachus dorynchus*, Leach.

Rev. G. E. Lee gave a most lucid and interesting address on "Dolmens and their use," illustrating his remarks with numerous drawings and diagrams. The lateness of the hour prevented discussion.

Monthly Meeting held on November 16th, 1898, Mr. G. Derrick, President, in the chair.

The minutes of the last meeting having been read, Mr. Royle exhibited *Amaranthus retroflexus*, found by Mr. Derrick in Sark. It is a not infrequent casual in this country, and a fairly common plant in the S.W of France.

But the main feature of the evening's Meeting was the exhibition by Mr. Collenette of a number of lantern slides of Dolmen markings. These were carefully criticised, and an animated discussion on their probable significance, and what suggested their peculiar designs, took place. The remarks of Rev. G. E. Lee on the subject proved most interesting.

Fifteenth Annual Meeting of the Society held on December 14th, 1898, Mr. G. Derrick, President, in the chair.

The following papers were read :—

The Rainfall and the Sunshine of 1898. By Mr. A. Collenette.

The Micro-Lepidoptera of Guernsey. By Mr. W. A. Luff.
Additions to the Sark Flora. By Mr. G. Derrick.
The Rubi and Rosæ of Guernsey and Sark. By Rev. Moyle Rogers.
Additional Guernsey Fungi. By Mr. E. D. Marquand.

The Hon. Secretary then read the Council's Fifteenth Annual Report, as follows :—

Ladies and Gentlemen,

The fifteenth year of the Society's existence has been one of quiet, unobtrusive labour, and we record with much pleasure the patient efforts of the earnest few who still carry on so successfully the work of the Society. Would that a larger number of its members took an active rather than a passive interest in its proceedings. During the year eleven meetings have been held, and the following papers read :—

Ancient names of Rocks, Bays, Creeks, &c., of Guernsey and Sark. By Rev. R. H. Tourtel, D.D.
The Rainfall and the Sunshine of Guernsey for 1898. By Mr. A. Collenette, F.M.S.
The Rubi and Rosæ of Guernsey and Sark. By Rev. Moyle Rogers.
Additions to the Flora of Sark. By Mr. G. Derrick.
The Micro-Lepidoptera of Guernsey. By Mr. W. A. Luff.
The Fungi of Guernsey. By Mr. E. D. Marquand.

Three meetings were occupied by the consideration of Megalithic Prehistoric Monuments, their structure, uses and ornamentation, the Rev. G. E. Lee and Mr. Collenette furnishing valuable and interesting information on the subject. The care just now being bestowed on these ancient monuments in Guernsey gives the subject additional interest.

The attendance at the monthly meetings has in many cases been very satisfactory.

Twelve outdoor excursions during the summer months have been held again this year, but the number of persons taking advantage of them has not been very encouraging.

During the year seven names have been added to the list of members, which now amounts to 97.

The Council thankfully acknowledges the receipt of the following publications during the year :—

1. Proceedings of Academy of Natural Science of Philadelphia, Part II., 1897.
2. Proceedings of Academy of Natural Science of Philadelphia, Part I., 1898.
3. Proceedings of the Holmesdale Natural History Club for years 1890-95.

4. The Land Mammals of Peninsula Florida and the Coast Region of Georgia.
5. The Smithsonian Report of the U.S. Museum for 1895.
6. Five papers from the Boston Society of Natural History.

To the authorities of the Guille-Allès Library the Council thankfully acknowledge its indebtedness for the use of the room in which its meetings are held.

In conclusion, members are earnestly requested to do all in their power to further the aims and interests of the Society.

W. Sharp, Hon. Sec.

The Hon. Treasurer then read the financial statement, from which it appeared that a balance was due to Treasurer of 8s. 10½d.

The report of the Botanical Section was read by Mr. T. C. Royle; that of the Entomological Section, by Mr. W. A. Luff; the Folklore Section, by Mr. J. L. Pitts; and that of the Geological Section, by Mr. C. De La Mare.

The retiring President then read his address.

The election of President. Officers and Council was then proceeded with. Mr. Derrick proposed Mr. W. A. Luff as President, Mr. Collenette seconded, and Mr. Luff was unanimously elected. Mr. Sharp was re-elected Hon. Secretary, and Mr. Luff Hon. Treasurer.

The following gentlemen form the Council:—Messrs. C. G. De La Mare, J. J. Hocart, E. Ch. Ozanne, T. C. Royle, J. Linwood Pitts and J. Le M. Bougourd.

REPORT OF THE BOTANICAL SECTION.

Only one new plant has been added to the Flora of the Bailiwick this year, namely, *Amaranthus retroflexus*, Linn., found by Mr. Derrick in Sark. The plant is not a native, its nearest habitat being the south of France. It is however included in the British list as a casual, frequently occurring in England.

I have much pleasure in recording the completion of the Rev. W. Moyle Rogers' valuable work on the *Rubi* and *Rosæ* of the islands by the inclusion in this year's *Transactions* of his papers and lists relating thereto. It has been thought advisable, in the interest of future workers, to reprint the author's paper on the same subject, but embracing the Channel Islands and part of northern France, which appeared in the *Journal of Botany* of March, 1898, the information therein contained being of very great value to all engaged in

the study of these difficult genera. We have to acknowledge the kindness of the Editor of the *Journal of Botany* in permitting us to reprint the article. I may add that a complete set of specimens of the Guernsey and Sark species have been added to the Herbarium.

The publication of Mr. Marquand's second list of the Guernsey Fungi completes for a time the work in this department, the list having been closed in August. As you have his interesting paper on the subject before you, it is needless to say more here. The section, however, offers its sincere congratulations to Mr. Marquand and his fellow workers on the very successful results obtained.

The small number of the additions made to the Sark list as compared with those of previous years, indicates that the Phanerogamic Flora of that island may be considered as practically completed. For this satisfactory result our thanks are due to Mr. Derrick, on whom the bulk of the work has fallen.

The papers referred to above are the only ones contributed by members of this section.

ADDITION.

Amaranthus retroflexus, *L.* Dixcart, Sark (Mr. G. Derrick) one plant.

T. C. Royle, Sec. Bot. Sect.

REPORT OF THE ENTOMOLOGICAL SECTION.

In last year's report I briefly referred to specimens of *Dianthœcia luteago*, bred by the Rev. F. E. Lowe from larvæ found feeding in his garden at St. Stephen's Vicarage.

In the June number of the *Entomologist's Record* for this year the editor, Mr. J. W. Tutt, refers to the species as follows :—

DESCRIPTION OF "DIANTHŒCIA (LUPERINA) LUTEAGO VAR. LOWEI."

"The Rev. F. E. Lowe kindly sent me a pair of specimens of a new form of this exceedingly variable species, which were bred on June 15th and 16th, 1897, from pupæ found at the roots of *Silene maritima* in Guernsey. These I have exhibited at the various London Entomological Societies under the name of var. *lowei*. A description, therefore, of the form becomes necessary."

Mr. Tutt then gives a detailed description of the Guernsey form, and goes on to say :—

"This will be well known to our readers as a very variable species. The variation of the species and a detailed description of three named forms, viz.: Var. *barretti*, Dby., var. *brunneago*, Esp., and var. *olbiena*, Hb.-Gey., are given in the British Noctuæ and their varieties, vol. 1, pp. 134-136. Since then Major Ficklin has captured a somewhat grey form, var. *ficklinii*, in Cornwall, and Mr. Lowe's makes another addition to the varietal list."

During this season Mr. Lowe has succeeded in breeding fourteen specimens of this new form. The best Moths captured during the year were *Leucania albipuncta*, taken by the Rev. F. E. Lowe in his garden, at sugar, on September 2nd, and *Agrotis lunigera*, also at sugar, on September 9th. *L. albipuncta* had not been seen since 1871, when I took a specimen at flowers of ragwort. The Rev. F. E. Lowe has also taken two specimens of a very pretty species of Micro-Lepidoptera, *Tortrix pronubana*, which is new to the British list.

The Convolvulus Hawk Moth, *Sphinx convolvuli*, has been extremely abundant, and numbers of specimens have been brought to me which were found resting on sheets, walls, &c. Many specimens were captured whilst hovering over flowers in gardens at Delancey Hill, Burnt Lane and near St. Stephen's Church.

On November 8th, Mr. A. Collenette brought me a full fed larva of *Acherontia atropos*, the Death's Head Moth. It had been brought into the house from his garden by a cat; strange to say it was not injured in any way. It has since entered the ground and changed into a pupa. The above is a very late date for the appearance of this insect in the larval state.

In the *Entomologist's Monthly Magazine* for September, 1898, Mr. James Eardley Mason, of Lincoln, gives a list of the Hemiptera-Heteroptera captured by himself in the Channel Islands during August, 1891. One species, *Trapezonotus Ullrichii*, Fieb., taken at Jerbourg, is new to the Guernsey list, and two species, *Heterogaster urticæ*, Fab., and *Drymus pilicornis*, Muls., are additions to the Alderney list. *Orthotylus concolor*, Kb., recorded for Sark, is also an addition.

In Coleoptera I have to add one species, viz., *Ptinus fur*, which was captured in a shop in Mansell Street on March 1st.

The following rare beetles, already on the list, have also been taken: *Panageus quadripustulatus*, *Cetonia morio* and *Hister quadrimaculatus*.

Two species have also been added to the list of Guernsey Diptera.

A list of the Micro-Lepidoptera of Guernsey has been read before the Society, and will be published in the *Transactions*. This list comprises 218 species, three of which have not been found in Great Britain.

The number of species of all orders now recorded for Guernsey in the *Transactions* is 1,752.

ADDITION TO THE LIST OF THE MACRO-LEPIDOPTERA OF GUERNSEY.

Dianthœcia luteago, var. *lowei*. This species was recorded last year, but without its varietal name. The Rev. F. E. Lowe has bred fourteen specimens this season.

ADDITION TO THE GUERNSEY LIST OF HEMIPTERA-HETEROPTERA.

Trapezonotus Ullrichii, *Fieb.* Recorded in the *Entomologist's Monthly Magazine* by Mr. J. E. Mason as taken during August, 1891, at Jerbourg.

ADDITIONS TO THE LIST OF THE DIPTERA OF GUERNSEY.

Chrysochlamys cuprea, *Scop.* One specimen captured at Petit Bot.

Conops flavipes, *L.* One taken in Talbots Valley.

ADDITION TO THE LIST OF COLEOPTERA OF GUERNSEY.

Ptinus fur, *L.* One specimen captured in a house in Mansell Street on March 1st, 1898. This species is often injurious to Natural History Collections and occasionally does great damage to wheat deposited in granaries.

ADDITIONS TO THE LIST OF THE INSECTS OF ALDERNEY.

HEMIPTERA-HETEROPTERA.

Heterogaster urticæ, *Fab.* Taken by Mr. J. E. Mason, August, 1891. Not uncommon in Guernsey.

Drymus pilicornis, *Muls.* Taken by Mr. J. E. Mason, August, 1891. I have not taken this species in Guernsey.

W. A. Luff, Sec. Ent. Sect.

REPORT OF THE GEOLOGICAL SECTION.

From a geological point of view, the year has not been productive of great results. We are, however, gradually accumulating details, which we trust will prove of value for future reference. Our field will not admit of much new work; it is true the rocks of this island have as yet been but little studied under the microscope, but unfortunately none of our geologists have had experience in that branch, and funds are at present lacking for the preparation of the

necessary slides of local rocks. We also acknowledge that many questions, such as the origin of the gneiss, the mode of accumulation of the superficial deposits, &c., still remain undetermined, but these questions hardly fall within our province, which is rather to accumulate facts, leaving it to others to draw therefrom such inferences as those facts seem to warrant.

SUPERFICIAL DEPOSITS.

1.—*Gravées.*

The excavations for drains near Melrose and in Rocquettes Lane have shown the presence of pockets containing deposits of yellow loamy clay.

2.—*Vrangue Brickfield.*

New sections are being continually exposed in the process of working the pits. The upper pit was visited in November, 1898, when the half of a large pebble or small boulder of diorite, measuring about 8 by 4 inches in cross section, was seen embedded in the clay about 8 or 9 feet from the surface. The upper 6 feet of this clay form a bed containing numerous pebbles, with angular pieces, and on the whole resembling head. A well defined horizontal line separates this bed from the underlying clay in which the boulder above referred to was embedded at a depth of about 2 feet below the line. This underlying clay reaches a thickness in one place of 10 feet. It is of a more homogeneous nature than the rubbly bed above, and has all the appearance of a natural and undisturbed deposit; nevertheless, examination revealed the presence of a small piece of what seemed to be brick (about the size of a pea) on about the same level as the boulder. Numerous pieces of carbonized woody fibre; two small pebbles, one of flint, the other of quartz; and one or two flint flakes, were also extracted from it. This clay is underlaid by sand of variable thickness, below which the decomposed rock is at last reached.

3.—*Rue des Marettes, St. Martin's.*

In the process of widening this lane, which leads from the Villiaze towards Icart, and is but little below the greatest altitude attained in this island, yellow earth interstratified with sandy clay was found in pockets 2 or 3 feet in depth. These pockets were numerous, being generally only separated from each other by a few feet or at most yards where the soil rested directly on decomposed rock. The stratification

of the clay and sand was distinct and followed the contour of the pockets.

4.—*Gouffre.*

The cliffs in the cove to the east of La Moye Point are capped by deposits of head, in which concretions of calcareous tufa occur, of the same nature as at Divette and Fermain, and corresponding to those referred to in Dr. Dunlop's paper in last year's *Transactions* as "männchen or püppchen."

5.—*L'Ancresse.*

The peat in this locality has yielded a few additional bones, chiefly of small animals.

ROCKS.

1.—*Park Street.*

In sinking a well at Mr. Bartlett's house (late Mr. H. R. Le Cheminant's) the rock was found to be blue gneiss somewhat resembling the Richmond type. This rock was remarkable in having its crevices to a considerable depth so filled with calcite as to be impervious. Some of the calcite veins reached 1 inch in width. At a greater depth, however, the fissures became more open and water was obtained.

2.—*Charroterie.*

A well was also sunk on Mr. E. A. De Putron's property, lately purchased from Mr. W. Collings. Here small veins of lead ore (probably argentiferous) were found.

3.—*St. Peter-Port Harbour.*

Rock has been removed during the year in various parts of the harbour. Near No. 1 and the *Courier* Landings, hard diorite was found. The same rock also occurred near the New North Arm of the Old Harbour, but in a more decomposed state and intersected by veins of red quartz felsite.

4.—*Rocquettes Lane and Gravées.*

In the excavations for the drains in these localities already referred to, the rocks were chiefly decomposed diorite or syenite. As in the cuttings and quarries of Route Isabelle, little or no gneiss was met with. A boss of hard undecomposed hornblende gabbro was encountered opposite Lisle Terrace. In Rocquettes Lane the solid rock occurred in rounded masses surrounded by thoroughly decomposed material, and veins of amorphous diorite reduced to a loamy clay were met with.

5.—*Crève Cœur* (*the eastern horn of the Mont Cuët promontory*).

This spot has been already reported on, but a few peculiarities seem worth mentioning. The rock is a reddish granite containing a few inclusions of diorite and many dark spots, which though of undefined contour, probably indicate other inclusions of the same rock blended and dissolved in the granitic magma. No intrusive dykes were noticed in the granite. In this respect it contrasts with the diorite which in Guernsey is always intersected by numerous dykes of various kinds. This difference probably indicates that the granite is of a more recent age than the diorite. A remarkable feature is a dislocation or crushing plane running east and west. Small veins of quartz felspar and chlorite accompany it. These are probably metamorphic products derived from the granite which near the dislocation is everywhere considerably altered, being in places converted to a quartz felsite resembling hornstone, whilst in others it passes into a purple porphyry with orthoclase crystals. Pebbles resembling this porphyry occurring in the beaches on the north side of the Island have long since attracted the attention of the Geological Section, but no similar rock had yet been found *in situ*.

6.—*Sark*.

This island was visited on the 7th July, 1898. A descent was made to the Grande Grève at the western foot of the Coupée. The country rock here is the banded gneiss or hornblende schist containing numerous inclusions of diorite. These inclusions are surrounded by the deflected laminæ and bands of the schist which has behaved as a plastic material would do under pressure in the presence of lumps of harder matter; the inclusions themselves in many cases also appearing to have yielded in a lesser degree to the pressure. The schist is intersected by numerous small granite veins, and also by very large dykes of a disintegrated granitic rock, the latter running vertically from top to bottom of the cliff and decomposed in places to china clay. Whether these two classes of granite veins are related was not determined. Another large vein, perhaps 20 feet wide, runs up the cliff in a direction somewhat parallel to the larger granitic veins, but is of quite a different nature, being a mica syenite, and though not containing much mica is doubtless of the same age as our mica traps. It cuts the smaller granite veins, but though close to the larger granite dykes does not meet them. Numerous arches and tunnels, due to erosion, occur in

detached rocks on the beach. Near the south-western extremity of the bay there is a species of crater which must formerly have been a "creux." It has three entrances, that on the north-western side being open and the others on the north-eastern and south-western respectively being tunnels. Near this spot the granitoid gneiss makes its appearance, the schist persisting for some distance further in the form of large lenticular inclusions in the gneiss. A vein of decomposed granitoid rock containing orthoclase felspar with abundance of chlorite cuts both the schist and gneiss.

C. G. De La Mare, Sec. Geo. Sect.

REPORT OF THE FOLKLORE SECTION.

Among the various local Folklore subjects that have come under my notice during the past year, I may mention some interesting examples of belief in the separable soul. This belief in a distinct and divisable and second self, is, as you know, one of the most widely diffused legends with which Folklorists have to deal. It more especially affects uncivilised or semi-civilised peoples; but we also find occasional traces of it lingering even among communities like ourselves. Its commonest form is that the soul leaves the body during sleep, and after wandering about for a time as a separate entity, it returns to the body and re-animates it. Hence the not unusual idea that it is unlucky or dangerous to suddenly awake a sleeper, which is obviously based—though often quite unconsciously—upon this curious old belief. The form or shape in which the Guernsey legends represent the soul as issuing from the mouth of the sleeper, is generally that of a pale bluish phosphorescent flame, whose wanderings in the night can be easily watched; and which, after various meanderings, returns and re-enters the sleeping body; its outside adventures meanwhile appearing to the sleeper to be the experiences of a dream.

Some years ago the late Sir Edgar MacCulloch gave me several interesting local instances of this belief, and similar narrations are still current, I find, in some of the low-lying districts to the west of the island. Those marshy localities may perhaps to some extent account for these alleged appearances. Indeed, Sir Edgar's opinion seemed to be that certain gaseous exhalations, more or less luminous—like the traditional will-o'-the-wisp—might really have been seen by the narrators of the stories, and then superstitious fear and vivid imagination might easily have done the rest.

Another question to which I should like to draw the attention of members, is the desirability of investigating and noting the popular games of children, to see how far the Guernsey forms of such games agree with or differ from those of similar games elsewhere. Within the past few years certain books of folk-games have been compiled and published; but previous to that, all the forms and formulas and rhymes pertaining to these juvenile recreations were simply handed down traditionally from one generation to another. Some of them seem to have descended from immemorial antiquity; and they evidently reflect the feudal customs, and possibly also the old religious rites, of a long-forgotten past. Considerable attention is being paid in England and elsewhere to these time-honoured amusements, and it will be interesting, I think, if *we* also try to gather up similar information here. Especially so, in the case of any once popular games that are now going out of fashion—games that were formerly enjoyed by our older members, but which are not in equal vogue among the children of to-day.

It will also interest members to know that the Board of Management of the Guille-Allès Library have decided that the Library shall become a subscriber to the English Folklore Society. My name has been entered as representing the institution, and we shall now receive the Society's various publications as they are issued. We are also collecting together, as opportunity offers, a full set of the previously-issued works and journals of the Folklore Society, so that those who are interested in the subject will in future be able to consult and refer to this extensive repertory of valuable Folklore information.

J. Linwood Pitts, Hon. Sec. Folklore Sect.

RETIRING PRESIDENT'S ADDRESS.

The two years in which I have had the honour of being its President have not been specially memorable in the history of this Society. Such exhaustive work had already been accomplished in most of those branches of science to which members have given their attention, that little more could be expected, and our greatest hope for the welfare and prosperity of the Society was, and must be, the opening up of new subjects of interest, or treating those already almost exhausted in some novel manner. With this latter idea, a series of lessons on scientific subjects, Botany, Geology and Entomology was inaugurated in 1897, but unfortunately they proved more difficult to sustain than had been anticipated, and were not continued after the summer recess. Personally, I much regret this failure, for such lessons would be of great interest and advantage to those already possessing some knowledge of these subjects, and they might have been the means of recruiting fresh, youthful, and energetic workers in these fields; and though to us these subjects may appear exhausted, these fresh recruits would attack them with all the zest inspired by the prospect of making new acquisitions.

It is all very well for us, when a specimen is brought under our notice, to say: "We have found this before; have exhibited it at meetings of the Society; have already recorded it in our Proceedings," and so on; but we ought to encourage others to make a beginning and to go through all the processes of the study. We could by such lessons as were started give them that assistance which might induce them to persevere in their labour, and thus enlist the services of young workers, whose non-appearance we so frequently deprecate. We should thus, too, be following out the wishes of the founders of the noble institution within whose walls our meetings are held, for they state their hope that: "This institution shall specially keep in view the elevation and

improvement of the people by the delivery of lectures, and the formation of classes in Natural History, Physical Sciences, &c." In England such lessons are given in some Elementary Schools; they enter the regular curriculum of most higher grade schools; and would in Guernsey be of great benefit morally and intellectually to the rising generation.

One subject has received special attention during these two years, viz., that branch of Archæology which treats of ancient stone monuments; those megolithic remains of which Guernsey fortunately possesses more than a usual proportion. One great practical work in connection with them has been carried out during the year. At the expense of the States all the larger cromlechs or dolmens (as we wish in future to call them) have been thoroughly cleared out and explored, and the stones fixed accurately in their original positions, and this work has been carried out in the most painstaking manner, so satisfactorily as to be highly applauded by all antiquarians who have seen the work completed. In some places where a similar process has been undertaken by private individuals, the result has been disastrous, the restoration having been carried out in so careless a manner, that a student basing his observations on such restored monuments would frequently be led to false conclusions. It would have been far better in such cases that the structures had been left in their old condition; but when, as in the case of our dolmens, they were falling into ruins, we cannot but be pleased to see them saved from perishing, and thankful that they have been so faithfully and accurately replaced.

No important discoveries were made during the progress of these operations, nor could we have expected them. The exploration by Mr. Lukis, some 60 years ago, was so thorough that only under exceptional circumstances could discoveries have been expected. Such a case occurred at De Tus, where the second in size of the capstones, being fractured, had fallen in; the fragment being so large was not raised by Mr. Lukis, but now with proper tackle at hand, it has been lifted, supported, and bound firmly in its original position, and in consequence Rev. G. E. Lee was able to collect a few specimens of bones, pottery, &c., from the small area thus freshly exposed, and to recover a portion of a very elegant flint knife from one of the cists. It is possible now to measure the exact area of the principal chambers, to note all the cists and other additions to the original enclosure, and to get an accurate idea of them.

Our attention was incidentally drawn this year to the dolmen on the beach on the west side of Herm. It is situated between high and low water mark, so that it can always be visited at low tide, and affords an additional proof that when these structures were erected, the land was at a higher elevation than at present. Owing to its position it has never been thoroughly explored, but it has frequently been rifled of late years, mostly by people living at Herm, who have unearthed bones, fragments of vases, and several cylindrical lumps of clay bearing the impress of the hand, similar to those which were found during one of our excursions to Richmond. The removal of a splendid chambered dolmen from Jersey to General Conway's estate in Berkshire has been almost universally condemned as an act of vandalism ; but I should not consider it a desecration, but rather a laudable proceeding to remove the stones of the Herm structure and re-erect them exactly in some accessible place on the main island.

As we are exhausting so many subiects of local research, we might endeavour to commence investigations in new directions. It would add to our knowledge of the history of the island if some member would study and collate ancient deeds and records relating to it, which are to be found here and in Normandy and England, and which are now much more readily consulted than formerly, and thus elucidate the history of the island down to the fourteenth century. It would increase the value of the records of this Society, too, if we could insert a list of the fiefs which exist, for these give an idea of the population, amount of cultivation, and general condition of the island at the time they were created. We might also embody a description of ancient buildings, as Castle Cornet, Ivy Castle, Vale Castle, &c., not forgetting the Castle of Jerbourg, and the history of these buildings as far as it can be traced. We might have, too, an archæological description of the ancient ecclesiastical buildings, with an endeavour to arrive at the real dates of erection of the various parts, and so leave no excuse for the continued quotation of the ridiculous dates given in the "Dedicace des Eglises."

There is also the possibility of giving more attention to those branches of science which bear upon agriculture and horticulture, by the preparation, reading, and discussion of papers of a practical kind, such as the life history of plants and animals injurious to cultivators.

As one of those who were instrumental in the formation of this Society, I cannot relinquish my present position

without expressing the pleasure I have had in working with the members, and my gratification at the useful work the Society has accomplished. I think it would be very difficult to find, away from the centres of learning, any other locality where such a mass of scientific data has been compiled, and that, too, almost entirely by amateurs, who have willingly given much time and great attention to their special branches of study. I sincerely hope that under the leadership of our new President, the Society will enter upon a fresh term of successful activity.

ADDITIONS TO THE SARK FLORA, 1889.

BY MR. G. T. DERRICK.

THE list of Sark plants published in our last *Transactions* was so long, that I did not anticipate any great increase this year. I am pleased to record eight new species which I myself have found. They are :—

Trifolium incarnatum, *L.* Crimson Clover.
Pyrus malus, *L.* Crab Apple.
Linaria cymbalaria, *L.* Ivy-leaved Toad Flax or Mother of Thousands.
Rumex sanguineus, *L.* Bloody-veined Dock.
Salix cinerea, *L.* Sallow or Goat Willow.
Populus alba, *L.* White Poplar.
Equisetum arvense, *L.* Corn Horsetail.
Amaranthus retroflexus, *L.* Erect Amaranth.

The first of these occurs, as in Guernsey, as an escape from cultivation, and grows along the side of the path leading to the mines, Little Sark.

The apple is reported in quantities on the edge of the cliffs, north of the harbour ; a tree occurs in the valley from the old mill to Little Dixcart.

The pretty creeping toad flax has throughly established itself on a bank near the Post Office.

The dock is commonly distributed ; Port du Moulin, &c.

The willow is a very common tree in the hedge-banks on the high road from the old cemetery to the Coupée ; it also occurs in Dixcart Valley, &c.

The white poplar may be found in the copse on the side of Dixcart lane and elsewhere.

The horsetail forms a large bed, having a very handsome appearance on the side of the path leading down to Grêve de la Ville.

Of the amaranth, I found one and the only specimen growing in cultivated ground attached to Dixcart hotel. We

are indebted to Mr. E. Marquand for its identification. It is not a native of England, and has not yet been observed in Guernsey. It resembles a *Chenopodium*, so is not an attractive plant, only a very ordinary-looking garden weed. It is not an infrequent casual in England, and is a fairly common plant in south-west France. Though it may not occur again, we have to add it to the plants distinctive of Sark; these now number six, viz. :—

Dianthus armeria.
Rosa systyla.
Pyrus communis.
Lysimachia nemorum.
Schleranthus annuus.
Amaranthus retroflexus.

Two of the plants which I mentioned last year as almost certainly existing in Sark, their discovery only depending upon a visit to the right locality, have been seen and reported to me this year; but I have not added them to the list as specimens have not been shown me. They are :—

Cascuta epithymum, *L.* Lesser Dodder. Captain Carré reported to me that he saw a small patch growing on grass and short herbage near the Moinerie; and

Inula crithmoides, *L.* Golden Samphire. Mr. W. C. Crofts wrote to me saying he had found it growing on the north shoulder of Derrible point, a spot difficult of access, and also on the side of a bay not named, facing the Sept Moires. I hope to get a specimen of each of these next season.

Our list now contains 345 species, a remarkable number for so small an area; we shall be pleased if members will assist in further extending the catalogue.

THE SUNSHINE OF GUERNSEY FOR THE YEAR 1898.

BY MR. A. COLLENETTE, F.C.S.

THE year 1898 turns out to have been the sunniest since observations were commenced by me in 1894.

In giving you my results I wish to call your attention to the fact that Dr. Francis Carey has been recording sunshine for the same period. I have to thank him for and to acknowledge the assistance I have received, which has enabled me to assert that his record does not materially differ from mine, and that therefore I have confidence in offering my figures as the Sunshine of Guernsey.

In the comparisons between English stations the figures may not be exact, owing to the fact that they have been extracted from the "Weekly Weather Reports," and therefore exact to the end of each week and not to the end of each month. With this exception I believe that the figures fairly represent the sunshine of each place as it occurred.

I first give a table showing the results for the year 1898 at Beaulieu, Hauteville, Guernsey.

TABLE I.

SUNSHINE AT BEAULIEU, HAUTEVILLE, GUERNSEY, 1898.

Months.	Hours.	Hours. Accumulative	Sunless Days.	% of possible.	Five Years' Average.	Compared with Average.	
						Above.	Below.
January	66·7	66·7	14	24	54·4	12·3	—
February	85·9	152·6	3	29	89·4	—	3·5
March	93·2	245·9	5	25	142·9	—	49·7
April	224·3	470·2	—	59	188·4	35·9	—
May	204·3	674·5	1	42	258·2	—	53·9
June	273·4	948·0	—	57	270·8	2·6	—
July	337·7	1285·7	—	70	272·6	65·1	—
August	265·1	1550·9	—	60	233·9	31·2	—
September	267·0	1818·0	1	71	188·2	78·8	—
October	128·7	1946·8	3	39	103·5	25·2	—
November	94·6	2041·4	7	35	71·3	23·3	—
December	48·9	2090·4	6	19	44·9	4·0	—
The Year	2090·4	2090·4	40	47	1916·7	173·7	—

TABLE II.

GUERNSEY SUNSHINE FOR 1898

Compared with the Average of Five Years, with each Year, and with the Possible (in hours).

Months.	1894.	1895.	1896.	1897.	1898.	Average of Five Years.	Possible.
January	64·8	63·3	34 9	42·4	66·7	54·4	269·2
February ..	87·0	111·3	98·9	63·8	85·9	89·4	294·4
March	196·7	168·1	110·1	146·6	93·2	142·9	367·6
April	191·7	191·2	171·4	163·3	224·3	188·4	408·6
May.....	230·0	309·7	307·0	239·8	204·3	258·2	472·8
June	215·3	294·5	301·9	269·3	273·4	270·8	481·3
July.....	187·2	254·6	277·7	305·6	337·7	272·6	484·5
August	186·4	244·8	234·2	239·2	265·1	233·9	442·6
September ..	155 2	269·4	107·3	142·2	267·0	188·2	376·7
October	91·8	91·4	85·2	120·7	128·7	103·5	331·4
November ..	74·5	62·1	69·0	66·3	94·6	71·3	271·1
December ..	44·2	18·0	38·1	75·1	48·9	44·9	255·1
The Year..	1724·4	2068·9	1825·5	1874·4	2090·4	1916·7	4454·8

From this second table we learn that the average of five years gives Guernsey a sunshine of 43% of the possible, whilst 1898 gave 47%; 1895, 46%; 1897, 42%; 1896, 41%, and 1894 only 38%.

The sunniest month of the whole period proves to have been July of this year with 337·7 hours. The month with the least sunshine was December, 1895, when only 18·0 hours were recorded against a possible of 255 hours, only slightly over 7%.

A study of the number of sunless days follows in Table No. III.

TABLE III.

SUNLESS DAYS IN GUERNSEY FOR THE PERIOD OF FIVE YEARS.

Months.	1894.	1895.	1896.	1897.	1898.	Average.
January	10	8	15	9	14	11
February	6	6	7	11	3	6
March	0	2	7	1	5	3
April	0	1	3	3	0	2
May	2	0	0	2	1	1
June	0	0	0	1	0	0
July	2	0	0	0	0	0
August	3	0	1	3	0	1
September	1	0	3	5	1	2
October.....	4	5	5	5	3	4
November.....	10	9	8	6	7	8
December.....	11	19	12	7	6	11
The Year....	49	50	61	53	40	51

The sunniest day of the year was July 7th, when 15 hours were recorded, being 94% of the possible sunshine.

The sunniest week gave 99·95 hours.

The sunniest month, July, gave 337·73 hours.

The table just read shows that the months April to September, inclusive, give a mean of only one sunless day each.

TABLE IV.

Station.	Sunniest Month.		Total for 1898.
	Month.	Hours.	
Guernsey	July	337·73	2090·41
Jersey	,, ...	326·70	2024·02
London	,, ...	219·90	1235·42
Oxford	,, ...	244·84	1472·10
Cambridge	,, ...	219·00	1601·22
Hastings	September..	240·69	1725·33
Southampton	July	259·75	1608·15
Torquay	,, ...	286·58	1732·35
Plymouth	,, ...	294·62	1604·89
Scilly Isles (St. Mary's) ..	,, ...	275·09	1813·87

In Table No. IV. I give a comparison between Guernsey and nine other Stations, by which it will be seen that for 1898 the Island gives the highest record, which also occurred in 1897.

THE MICRO-LEPIDOPTERA OF GUERNSEY.

BY MR. W. A. LUFF.

In papers read before the Society during 1882 and 1889 I gave lists of the Butterflies and larger Moths of Guernsey. These are known under the name of Macro-Lepidoptera. Since that time I have been collecting material for a list of the remaining families of Moths which are usually classed together as Micro-Lepidoptera, this name being given to them on account of the microscopic dimensions of many of the species. They comprise several well-marked groups of mostly small Moths of varied habits, and are very numerous in species.

The *Deltoides* are the largest in size of the Micro-Lepidoptera, the typical species being *Hypena proboscidalis*, a common and well-known insect, the larva of which feeds upon the common nettle. They are familiarly known as Snout Moths, the palpi being of great length and projecting far in front of the head, looking almost like a forked proboscis.

The *Pyralides* are a very large group, and may be known when at rest by the appearance of their wings, which form a sort of triangle, of which the apex is the head and thorax. The larvæ have very dissimilar habits. One species, *Aglossa pinguinalis*, forms silk-lined tubes in the earth and feeds on refuse, leaves, stems, husks, &c., as described by myself in our *Transactions* for 1890, page 15. Other species feed on rolled up leaves of various plants, whilst *Cataclysta* and *Hydrocampa*, commonly known as china marks by the peculiar markings on their wings, are remarkable as being the only family of Lepidoptera that are aquatic in their larval state. The caterpillars feed on water plants of various kinds and make cases somewhat similar to that of the caddis worms, not, however, as these do, of vegetable débris, stones, &c., but of the fresh leaves of the plants on which they feed. They live in these cases beneath the surface of the water.

We now pass to the next group, the *Crambidæ*. These are known as Grass Moths, many of them abounding in grassy places, settling upon the stalks of grasses with their heads downwards, in such profusion that at every step dozens are disturbed. They are readily known by their narrow fore wings and ample hind wings, which fold into little space around the body when the insect is at rest, thus rendering them very difficult of detection.

The larvæ of *Galleria cereana* and *Meliphora alveariella* are very injurious to bees in hives, feeding on the honey, sometimes greatly damaging the combs as well as destroying the inhabitants.

The next division of the Micro-Lepidoptera comprise the *Pterophori* or Plume Moths. These may easily be recognised by the plume-like nature of the wings. Usually each wing is divided into three plumes, but in one species, *Alucita polydactyla*, each wing is composed of six plumes. One of the prettiest, also the commonest, is the white plumed *Pterophorus pentadactylus*. This species is snowy white, and, as it flies along in the evening, looks like a snowflake borne by the wind.

The beautiful and extensive division of the *Tortrices* comes next in order. These insects are called *Tortrices* or Twisters from the habits of the larvæ in twisting or puckering up the leaves of the various plants on which they feed and living within the shelter thus made. The caterpillar is usually naked, slender, with sixteen legs, and is very active, running with great rapidity either backwards or forwards. Some few species reside within the pulpy substances of fruits, as plums, apples, &c. The Apple Moth, *Carpocapsa pomonana*, is a very beautiful creature, but is seldom seen in the moth state. The larva, however, is well known to both apple growers and apple eaters, and is the maggot found inside apples, causing them to drop from the trees before they are ripe.

The *Tineæ* comprises a vast assemblage of species, nearly all of very small dimensions. Some of the most destructive of British insects belong to this group, especially the various species of Clothes Moths usually found inside our houses, making havoc among clothes, wool, fur and feathers. The larvæ of *Solenobia inconspicuella* forms curious cone-shaped cases from the lichen on which it feeds. The male imago is an active ample-winged little fellow, but the female never acquires wings and never leaves the case in which she has fed up.

The *Adelas* or Long Horns are singularly beautiful insects, remarkable for the enormous length of their antennæ. in some instances five or six times the length of the body.

The family of *Hyponomeutidæ* are injurious insects. *Hyponomeuta padella*, the little Ermine Moth, in the larval state is terribly destructive, sometimes demolishing the foliage of whole hedges and covering them with a mass of silken threads and webs of remarkable size and toughness. These webs, when examined, will be found to contain a vast number of caterpillars.

The *Coleophoridæ* are a family of small but pretty insects, having case-making larvæ. These cases are usually of a brown colour and look like minute cigars sticking up on end on the surface of the leaf ; if pulled off a larva will be found within.

To the *Nepticulidæ* belong the smallest and most brilliant examples of British Lepidoptera. Most of them are so tiny that the aid of a lens is required to set them when captured, and it is a most difficult matter to pin them without destroying them. The larvæ of these insects look more like tiny maggots than caterpillars, and burrow into the substance of the leaves, eating the parenchyma and forming the wavy lines so often noticed on the leaves of various plants. The one on the bramble leaf is usually very conspicuous, and is the work of *Nepticula aurella*. To the unassisted eye this little Moth is a mere brown speck. Placed under the microscope we see the two upper wings are of a rich golden brown, becoming deep purple beyond the middle, across which runs a band of burnished gold ; the under wings are fringed with silvery scales.

The species mentioned in the following list were mostly captured on the wing, very few of them being bred. If systematic breeding of larvæ were undertaken many additions would doubtless be made.

Three species have not been recorded for Great Britain, viz., *Tortrix pronubana*, Hb. ; *Adela violella*, Tr. and *Fumea? lapidicella*, Zell. Two specimens of the first were captured this autumn (1898) by the Rev. F. E. Lowe, F.E.S., the others by myself several years ago. I have added a few species, which I myself have not seen or taken, from the list of Lepidoptera in "Ansted's Channel Islands," these are marked Ansted. I have also placed the letter A against all the other species mentioned in his list. One species, *Crambus furcatellus*, recorded in Ansted, I have

not included, as I think some other species has been mistaken for it. It is very unlikely to occur with us, as it has hitherto only been taken on the mountains of Scotland and Central Europe, usually at an elevation of above 2,000 feet. The number now recorded for Guernsey is 218.

In conclusion, I desire to return my sincere thanks to Mr. C. G. Barrett, F.E.S., and the Rev. E. N. Bloomfield, F.E.S., for their great kindness in examining and naming all the species of which I felt doubtful.

MICRO-LEPIDOPTERA.

DELTOIDES.

HYPENIDÆ.

Hypena proboscidalis, *L.* Abundant. A.

Hypenodes albistrigalis, *Haw.* Ansted.

HERMINIIDÆ.

Rivula sericealis, *W. V.* One, near Ivy Castle, July 1872. A.

Herminia derivalis, *Hb.* Not common. Have taken two in neighbourhood of Fermain Bay.

H. tarsipennalis, *Tr.* Common.

AVENTIIDÆ.

Aventia flexula, *F.* I have several very old specimens taken by the late Miss L. Renouf in Guernsey many years ago; it is also in Ansted's list. A.

PYRALIDES.

PYRALIDIDÆ.

Pyralis fimbrialis, *W. V.* (costalis, *F.*) Two specimens captured in my garden, Burnt Lane, August, 1897.

P. farinalis, *L.* Common in out-houses and stables. A.

Aglossa pinguinalis, *L.* Common in out-houses and stables. In Sept., 1889, I found hundreds of larvæ of this species in a green-house at St. Andrew's. See *Transactions* for 1890, page 15. A.

A. cuprealis, *Hb.* One specimen taken in a garden at Mount Row.

CLEDEOBIIDÆ.

Cledeobia angustalis, *W. V.* Not uncommon on the cliffs near Monument and at the Gouffre.

ENNYCHIIDÆ.

Pyrausta punicealis, *W. V.* (aurata, *Scop.*) One specimen at Saints' Bay, July, 1892.

P. purpuralis, *L.* Not common. Several taken on the cliffs. A.

P. ostrinalis, *Hb.* Fairly common on the cliffs and on l'Ancresse Common.

Herbula cæspitalis, *W. V.* Common on the cliffs and in dry fields. A.

Ennychia cingulata, *L.* Two specimens on the cliffs near Monument. One taken on the common at Herm. A.

Endotricha flammealis, *W. V.* Not uncommon in lanes leading to Fermain and Petit Bot Bays. A.

STENIIDÆ.

Stenia punctalis, *W.V.* Common near the coast. A.

HYDROCAMPIDÆ.

Cataclysta lemnata, *L.* Common near ponds at the Vale and Ivy Castle. A.

Hydrocampa nymphæata, *L.* Several near Ivy Castle, July 21st, 1891.

H. stagnata, *Don.* One at Grande Mare, Vazon, August, 1891.

BOTYDÆ.

Botys hyalinalis, *Hb.* Gouffre, one.

B. verticalis, *W.V.* Abundant amongst nettles. July and August. A.
(ruralis, *Scop.*)

B. fuscalis, *W.V.* Two captured in fields at the Vrangue. July, 1872.

B. urticata, *L.* Abundant amongst nettles. June and July. A.

Ebulea crocealis, *Tr.* Two taken near Saints' Bay. A.

E. verbascalis, *W.V.* Not uncommon.

E. sambucalis, *W.V.* One taken near Fermain Bay, July 31st, 1872. A.

Pionea forficalis, *L.* Abundant everywhere. A.

P. stramentalis, *Hb.* One taken by Mrs. Boley at St. Martin's. One by myself near Bouët.

Spilodes cinctalis, *Tr.* Two specimens near Fermain Bay. A.

Scopula lutealis, *Haw.* One at Fermain Bay. One in Moulin Huet Water Lane.

S. prunalis, *W.V.* Common. A.

S. ferrugalis, *Hb.* Several at Fermain Bay and Gouffre. A.

SCOPARIIDÆ.

Stenopteryx hybridalis, *Hb.* Common on the cliffs in the autumn. A.
(noctuella, *W.V.*)

Scoparia ambigualis, *Tr.* Common.

S. dubitalis, *Hb.* Several specimens taken near the coast. A.
(pyralella, *W.V.*)

S. lineolea, *Curt.* One specimen captured at St. Andrew's. July, 1875.

S. mercurella, *L.* Not uncommon.

S. cratægella, *Hb.* Several specimens beaten from hedges at St. Andrew's. July and August.

S. coarctalis, *Zell.* Three specimens at Petit Port. June 12th, 1898.
(angustea, *Steph.*)

PTEROPHORI.

PTEROPHORIDÆ.

Amblyptilia acanthodactyla, *Hb.* Captured several hovering over flowers in my garden, Burnt Lane. August and September, 1898. A.

Oxyptilus parvidactylus, *Haw.* Several captured in Petit Bot Valley. A.

Mimæseoptilus phæodactylus, *Hb.* Captured several on cliffs near the Gouffre. June, 1891.

M. fuscus, *Retz.* Common.
(pterodactylus, *L.*)

Pterophorus pterodactylus, *Hb.* Not uncommon. A.
(monodactylus, *L.*)

Leioptilus microdactylus, *Hb.* One specimen captured at Saints' Bay. May 15th, 1892.

Platyptilia isodactyla, *Zell.* Ansted.

Aciptilia spilodactyla, *Curt.* Ansted.

A. pentadactyla, *L.* Common in fields and gardens. A.

ALUCITIDÆ.

Alucita polydactyla, *Hb.* Common in fields and gardens, often flying on window panes in houses. A.

CRAMBI.

CHILIDÆ.

Schœnobius forficellus, *Thunb.* One taken in a garden at Torteval. July 21st, 1891.

CRAMBIDÆ.

Crambus falsellus, *W.V.* One specimen taken by Mrs. Boley at St. Martin's.

C. pratellus, *L.* Not uncommon. May and June. A.

C. hamellus, *Thunb.* One specimen, near Cobo, July 7th, 1872. A.

C. pascuellus, *L.* Common in fields during July. A.

C. perlellus, *Scop.* Fields near Gouffre.

C. Warringtonellus, *Zell.* Taken near Castel Church.

C. tristellus, *W.V.* In fields near Cobo. Also taken by Mrs. Boley at St. Martin's. A.

C. inquinatellus, *W.V.* One specimen in field near Vazon. I have taken it also in Jersey. A.

C. contaminellus, *Hb.* Ansted.

C. geniculeus, *Haw.* Two captured near Gouffre. July, 1898.

C. culmellus, *L.* Common in meadows at Grande Mare, Vazon. A.

C. hortuellus, *Hb.* Common in June and July. A.

PHYCIDÆ.

Homœosoma sinuella, *F.* One.

H. nimbella, *Zell.* One at Moulin Huet, August 6th, 1872. Two, Vale, August 17th, 1898.

Ephestra elutella, *Hb.* One specimen captured by Mrs. Boley in her garden at St. Martin's.

Cryptoblabes bistriga, *Haw.* One specimen captured April 21st, 1892.

Pempelia palumbella, *F.* One specimen bred by Mrs. Boley.

Rhodophæa marmorea, *Haw.* Ansted.

GALLERIIDÆ.

Aphomia sociella, *L.* Not uncommon. A.

Meliphora alvearia, *F.* Larvæ common in old bee-hives.
(grisella, *F.*)

TORTRICES.

CYMBIDÆ.

Halias chlorana, *L.* Ansted.

TORTRICIDÆ.

Tortrix podana, *Scop.* Common in gardens. June and July.
(pyrastrana, *Hb.*)

T. xylosteana, *L.* Have taken several specimens. Very variable.

T. sorbiana, *Hb.* Two specimens taken at St. Martin's. July, 1872.
T. rosana, *L.* Common in gardens. A.
T. heparana, *W. V.* Taken by Mrs. Boley at St. Martin's.
T. ribeana, *Hb.* Common. June and July. A.
T. unifasciana, *Dup.* Several specimens beaten from privet hedge, road leading to Doyle's Monument.
T. viridana, *L.* I have never found this species abundant. A.
T. diversana, *Hb.* Not uncommon. A.
(transitana, *Gn.*)
T. ministrana, *L.* One, Fermain Bay. May 22nd, 1872.
T. pronubana, *Hb.* Two specimens of this non-British species taken by Rev. F. E. Lowe near St. Stephen's Church.
Œnectra pilleriana, *W. V.* One, Fermain Bay, July 19th, 1872. One in garden, Burnt Lane, July, 1898. It is rare and local in England.
Peronea variegana, *W. V.* Common during July. Very variable. A.
P. hastiana, *L.* Fermain Bay and Hubit Lanes. A.
P. ferrugana, *W. V.* Several beaten from hedges, Hubit Lanes and Vrangue.
P. tristana, *Hb.* One in a garden at Mount Row. September, 1895. A.
(logiana, *W. V.*)
P. aspersana, *Hb.* One, Talbots Valley, July, 1896.
Teras contaminana, *Hb.* Not uncommon. A.
Dictyopteryx Holmiana, *L.* Common. A.
D. Bergmanniana, *L.* Not uncommon in gardens. A.
D. Forskaleana, *L.* Two specimen, Fermain Bay Lane. A.
Argyrotoxa Conwayana, *F.* One near St. Saviour's Church. June 13th, 1893. A.

PENTHINIDÆ.

Penthina cynosbana, *Hb.* Common by beating hedges in June. A.
(variegana, *Hb.*)
P. ochroleucana, *Hb.* Taken by Mrs. Boley at St. Martin's.
P. ochromelana, *Gn.* One taken near Moulin Huet.
(dimidiana, *Tr.*)

SPILONOTIDÆ.

Spilonota ocellana, *W. V.* Several in garden, Burnt Lane. August, 1898.
S. aceriana, *Mann.* In garden, Burnt Lane, July, 1898.
S. roborana, *W. V.* Several beaten from hedges in June.
Pardia tripunctana, *W. V.* Beaten commonly from hedges in May and June. A.

SERICORIDÆ.

Aspis udmanniana, *L.* Common in hedges. June. A.
Sericoris lacunana, *W. V.* Not uncommon. June and July.

SCIAPHILIDÆ.

Sciaphila subjectana, *Gn.* Three specimens captured at St. Martin's. June and July, 1882.
S. virgaureana, *Tr.* Bred from larva feeding on plantain.
Sphaleroptera ictericana, *Haw.* In fields near Vazon. Common.

GRAPHOLITHIDÆ.

Phoxopteryx myrtillana, *Tr.* Several specimens bred by Mrs. Boley.

Grapholitha campoliliana, *W.V.* Several specimens beaten from hedges at Grande Mare, Vazon. May, 1876.
(subocellana, *Don.*)

G. trimaculana, *Don.* Common.

G. nævana, *Hb.* Several taken in lanes at the Forest.

Hypermecia cruciana, *L.* Amongst sallows, top of Petit Bot Bay. May, 1896. A.
(angustana, *Wlk.*)

Batodes angustiorana, *Haw.* Common. A.

Pædisca corticana, *W.V.* Not uncommon.

P. Solandriana, *L.* Two specimens, St. Martin's, August 3rd, 1870, and July 28th, 1896.

P. sordidana, *Hb.* One, St. Saviour's, September, 1877.

Halonota bimaculana, *Don.* Common. A.
(similana, *Hb.*)

H. Pflugiana, *Haw.* Taken near Fermain Bay. July, 1874. A.
(scutulana, *Wlk.*)

Semasia Wœberana, *W.V.* Common in gardens and orchards. June and July. A.

Coccyx tædella, *L.* Beaten from fir trees in plantation near Jerbourg. A.
(hyrciniana, *Uslar.*)

Carpocapsa splendana, *Hb.* Ansted.

C. pomonella, *L.* Abundant. A.

Stigmonota internana, *Gn.* One specimen near Moulin Huet Bay. A.

Dicrorampha alpinana, *Tr.* Ansted.

D. petiverella, *L.* One taken near Vale Mill. July, 1894. A.

D. plumbagana, *Tr.* Not uncommon.

D. herbosana, *Bar.* One specimen taken in June, 1872.

Catoptria ulicetana, *Haw.* Abundant wherever furze bushes grow.

C. cana, *Haw.* Taken near Gouffre. August, 1898.

Trycheris mediana, *W.V.* One specimen, Gouffre. July, 1872.
(aurana, *F.*)

PYRALIDÆ.

Xylopoda Fabriciana, *L.* Not uncommon. Three at Perelle Bay, June 9th, 1898.

CONCHYLIDÆ.

Eupœcilia maculosana, *Haw.* Two captured at Saints' Bay. June, 1895. A.

E. notulana, *L.* One specimen captured at Gouffre. June 10th, 1882.

E. flaviciliana, *Dbl.* One by sweeping cliffs near Gouffre. July, 1873.

Xanthosetia Zoegana, *L.* Several captured in August, 1877. A.

X. hamana, *L.* Two at St. Martin's. A.

Argyrolepia Dubrisana, *Curt.* One specimen taken at Petit Port, March 28th, 1898.

A. baumanniana, *W.V.* Ansted.
(Hartmanniana, *Clerck.*)

A. subbaumanniana, *Wilk.* Ansted.

A. badiana, *H.B.* Ansted.

Conchylis Francillana, *F.* Near Gouffre and in St. Saviour's Valley.

C. inopiana, *Haw.* One specimen taken, June 27th, 1886. A.

TINEÆ.

EPIGRAPHIIDÆ.

Diurnea fagella, *W.V.* Bred by Mrs. Boley from oak.

PSYCHIDÆ.

Fumea nitidella, *Steph.* Bred from pupa found at Grand Mare, Vazon.

F. ? lapidicella, *Zell.* Three specimens taken in 1872. Cases believed to belong to this species are very abundant on lichen-covered stone walls throughout the island.

TINEIDÆ.

Scardia granella, *L.* Not uncommon in old flour mills, &c.

S. cloacella, *Haw.* Common amongst old cork work in a house in Burnt Lane.

Tinea rusticella, *Hb.* Several taken in house, 15th May, 1898.

T. tapetzella, *L.* Common in houses. A.

T. pellionella, *L.* Common in houses throughout the summer.

T. biselliella, *Humm.* Common in houses and stores.

Incurvaria masculella, *W.V.* Two specimens, St. Andrew's. May, 1898.

Adela Sulzella, *W.V.* One specimen taken in Mount Row, June 15th, 1896.
(**crœsella,** *Scop.*)

A. violella, *Tr.* One specimen of this non-British species was captured in the Talbot Valley, June 7th, 1892. Identified by Mr. C. G. Barrett, F.E.S.

A. Degeerella, *L.* Not common. Have taken four specimens at various times.

HYPONOMEUTIDÆ.

Swammerdammia comptella, *Hb.* One taken at Petit Bot Bay, May 28th, 1898.
(**combinella,** *Hb.*)

S. pyrella, *Will.* Not uncommon in hedges.

Hyponomeuta padellus, *L.* Very abundant in hedges everywhere. A.

Prays Curtisellus, *Don.* Not rare amongst ash. A.

PLUTELLIDÆ.

Plutella cruciferarum, *Zell.* Common in gardens and fields near the cliffs. A.

Cerostoma vittella, *L.* Common in hedges near the coast. A.

C. radiatella, *Don.* Not uncommon.

GELECHIIDÆ.

Phibalocera quercana, *F.* Common. A.

Depressaria costosa, *Haw.* Amongst furze bushes on the cliffs.

D. umbellana, *Steph.* Common near the cliffs.

D. atomella, *Hb.* Several on the cliffs near Gouffre. A.

D. arenella, *W.V.* Two specimens in garden at Mount Row.

D. carduella, *Hb.* Ansted.

D. ocellana, *F.* I have three specimens taken at various times. A.

D. Yeatiana, *F.* Ansted.

D. applana, *F.* One specimen, Fermain Bay. 1870.

D. badiella, *Hb.* One.

D. heracleana, *De Geer.* Abundant. A.

Gelechia malvella, *Hb.* Ansted.
G. mulinella, *Zell.* Ansted.
G. distinctella, *Zell.* One specimen captured in garden, Burnt Lane. August, 1898.
G. plantaginella, *Stn.* Two near Saints' Bay. August.
G. tenebrella, *Hb.* One specimen taken near Cobo.
G. pictella, *Zell.* One near Grande Rocque. July, 1875.
Dasycera sulphurella, *F.* Common. A.
Œcophora flavimaculella, *Stn.* Not uncommon. A. (fulviguttella, *Zell.*)
Œcophora pseudo-spretella, *Stn.* Very common in houses.
Œcogenia quadripuncta, *Haw.* Several specimens taken under loose stones on the islet of Chapelle Dom Hue.
Endrosis fenestrella, *Scop.* Common in the house and garden. A.
Butalis grandipennis, *Haw.* One beaten from furze, Saints' Bay.

GLYPHIPTERYGIDÆ.

Glyphipteryx Thrasonella, *Scop.* Grande Mare, Vazon. August.
G. Fischeriella, *Zell.* Common. Talbots Road. June 7th, 1892.

ARGYRESTHIIDÆ.

Argyresthia ephippella, *F.* Common amongst cherry trees in gardens. June and July. A.
A. nitidella, *F.* In gardens, Mount Row and Burnt Lane. June and July. A.
A. albistria, *Haw.* One beaten from hedge at Hubits.
A. Brockiella, *Hb.* Ansted.

GRACILARIIDÆ.

Gracilaria tringipennella, *Zell.* Several beaten from hedges during May.
G. omissella, *Dongl.* Ansted.
Ornix anglicella, *Stn.* Common.

COLEOPHORIDÆ.

Coleophora vibicella, *Hb.* Ansted.
C. albicosta, *Haw.* Ansted.
C. cæspititiella, *Zell.* Several at Grande Mare, Vazon. A.
C. hemerobiella, *Scop.* Cases of the larvæ common on pear tree leaves.

ELACHISTIDÆ.

Batrachedra præangusta, *Haw.* Captured several near Petit Bot Bay. July, 1898.
Laverna Hellerella, *Dup.* Not common. A.
Chrysoclysta Schrankella, *Hb.* One specimen captured at Fermain Bay. June, 1874.
Chrysocoris festaliella, *Hb.* Several near the coast. April 15th and May 10th.
Elachista albipunctella, *Hb.* One specimen captured near Vazon. July, 1898.
E. perplexella, *Stn.* Ansted.
E. gangabella, *Fisch.* Ansted.

Elachista adscitella, *Stn.* Ansted.
E. cygnipennella, *Hb.* Common on the cliffs in spring and autumn. A.
(**argentella,** *Clerck.*)

LITHOCOLLETIDÆ.

Lithocolletis pomifoliella, *Zell.* Taken in gardens in May. A.
L. quercifoliella, *Fisch.* Beaten from oak trees in August. A.
L. Messaniella, *Zell.* Abundant around evergreen oaks.
L. corylifoliella, *Haw.* Beaten from hedges in August and September.
L. trifasciella, *Haw.* Not uncommon.

LYONETIIDÆ.

Lyonetia Clerckella, *L.* Bred from apple leaves. August, 1886. A.
Bucculatrix aurimaculella, *Stn.* One specimen captured at Gouffre, July 20th, 1870.

NEPTICULIDÆ.

Nepticula ruficapitella, *Haw.* Beaten from oak. A.
N. anomalella, *Göze.* Bred several from larvæ in rose leaves.
N. marginicolella, *Stn.* Ansted.
N. aurella, *F.* Common. A.

ADDITIONAL GUERNSEY FUNGI.

BY E. D. MARQUAND, EX-PRESIDENT.

DURING the past twelve months a very important addition has been made to the list of Fungi published in last year's *Transactions*. The record is made much more complete by the finding of many winter and spring species which were necessarily absent from the previous list, and among them there are several of great interest and rarity.

It will be remembered that last year I announced the discovery in Guernsey of two species hitherto undescribed: *Clitopilus sarnicus* and *Verticillium Marquandii;* a third species new to science has now to be recorded,—a remarkably fragrant, ivory-white Agaric, discovered by Mr. W. A. Luff on the cliffs at Icart, on January 3, 1898. To this fine addition to the Flora Mr. Massee has given the name of *Omphalia Luffii*, in honour of one of the most diligent collectors of Guernsey Fungi. These three new species were described by Mr. Massee in the Transactions of the British Mycological Society for 1896-1897, pp. 20-24, as follows :—

Clitopilus sarnicus, *Massee* (sp. nov.) Gregarious; pileus campanulate then expanding until quite plane, subumbonate, often more or less depressed round the umbo, slightly striate when moist, even when dry, mouse-colour, paler with a ruddy tinge when dry, minutely silky-flocculose, 2-3 cm. across; flesh very thin. Gills rather crowded, 3-4 mm. broad, plane nearly up to the stem, then suddenly decurrent, pinkish salmon-colour. Spores nodulose, with an apiculus, 7-8 × 6μ; cystidia absent. Stem 2-3 cm. long, 2 mm. thick, equal, slightly flexuous, even, white, glabrous, minutely fistulose.

On the ground among grass. Guernsey. Allied to *Clitopilus undatus*, but differing in the slender, equal, white stem, and the absence of a grey tinge in the gills.

Verticillium Marquandii, *Massee* (sp. nov.) Patches broadly effused, minutely velvety, pale lilac at first, becoming deep lilac or amethyst-coloured at maturity. Vegetative mycelium creeping, branched, septate, hyaline, slender, giving origin to numerous slender, erect, fertile branches, which are either simple, or usually with 1-4 short, alternate, or opposite branchlets, rarely in whorls of 3; tips of branchlets, also tip of main axis bearing a whorl of 3-6 flask-shaped conidiophores. Spores smooth, hyaline, lemon-shaped, solitary on the tips of the conidiophores, or rarely in chains of 2 conidia, 3-3·5 × 1·5-2μ.

Parasitic on the gills of *Hygrophorus virgineus*. Guernsey. A very beautiful mould, and very conspicuous on account of its clear lilac colour. Numerous specimens were received during the months of October and November, 1897.

Omphalia Luffii, *Massee* (sp. nov.) Pileus at first convex and more or less undulate, becoming depressed at the centre, extreme margin usually upturned, old ivory colour, white when dry, even, glabrous, 2-3 cm. across, flesh very thin, white; gills crowded, decurrent, thin, 2 mm. broad, pale wood colour, unchangeable; spores elliptical, hyaline, smooth, 5 × 3μ; stem 2-3 cm. long, 2 mm. thick at the base, thickened at the apex, often crooked, solid, outside glabrous, polished, coloured like the gills. Smell fragrant, spicy.

On the ground, gregarious. Guernsey (Luff). Smell spicy, resembling that of *Clitocybe fragrans*, to which the present plant bears a superficial resemblance, but is readily distinguished by the short cartilaginous polished stem and other features noted above.

One species in the present list is new to Britain, viz.: *Lepiota carneifolia;* and nine others are worthy of note on account of their extreme rarity on British soil :—

Tricholoma ionides.
T. scalpturatum.
Marasmius Wynnei.
Omphalia belliæ.
Pholiota molliscoria.
Agaricus pratensis.
A. augustus.
Psilocybe squalens.
Pilobolus longipes.

As illustrating the mildness of the climate as well as the richness of the island from a mycological point of view, even in mid-winter, it will be interesting to preserve the following list of fifty-three Agarics collected in Guernsey during the month of January; many of these were sent more than once, and from different parts of the island :—

Tricholoma pumilum.
T. exscissum.
T. nudum.
T. personatum.
Marasmius oreades.
M. prasiosmus.
Collybia velutipes.
C. atrata.
C. confluens.
Mycena tenerrima.
M. flavo-alba.
M. galericulata.
Russula nitida.
Laccaria laccata.
Clitocybe flaccida.
Omphalia umbellifera.
O. belliæ.
O. rustica.
O. integrella.
O. Luffii.
Hygrophorus chlorophanus.
H. puniceus.
H. psittacinus.
H. niveus.
H. russo-coriaceus.
H. obrusseus.
H. pratensis.
H. aureus.
Entoloma prunuloides.
E. costatum.
E. sericeum.
Leptonia lampropoda.
L. serrulata.
Galera spartea.
G. ovalis.
G. tenera.
Tubaria inquilina.
T. furfuracea.

Cortinarius ochroleuca.
Agaricus sagatus.
Stropharia coronilla.
S. stercoraria.
S. melasperma.
S. inuncta.
Hypholoma fasciculare.
H. capnoides.
H. hydrophilus.
Psilocybe fœnisecii.
P. semilanceata.
Panæolus sphinctrinus.
P. papilionaceus.
P. campanulatus.
Coprinus micaceus.

My very best thanks are due to my friend, Mr. George Massee, F.L.S., who has spared neither time nor trouble in examining the many hundreds of specimens submitted to him, and who has determined all the species now enumerated. Also I am deeply grateful to the following ladies and gentlemen who kindly collected and forwarded to me throughout the year in a fresh condition the specimens upon which the present list is founded; viz.: Mrs. Marquand, Mrs. Boley, Miss Boley, Miss Dawber, Miss Domaille, and Messrs. W. Cameron, A. Collenette, G. Derrick, J. S. Hocart, H. Le Lacheur, W. A. Luff, A. Quick and T. C. Royle.

It only remains to add that the subjoined list comprises 156 species, which, added to the 456 enumerated last year, forms the large total of 612 Fungi recorded for the island of Guernsey,—a number which has rarely been equalled in any locality of the same size in the kingdom.

HYMENOMYCETES.

Lepiota delicatula, *Fr.* Near St. Martin's Church (Cameron).
L. carneifolia, *Gill.* A French species, new to Britain. Sausmarez Lodge grounds, Queen's Road (Derrick).
Tricholoma exscissum, *Fr.* Grand Havre (Derrick).
T. militare, *Lasch.* Garden, Indiana (Mrs. Boley).
T. gambosum, *Fr.* The St. George's Mushroom; edible; by some considered the most delicious of all Agarics. Norgiots (Le Lacheur).
T. ionides, *Bull.* A French species, very rare in Britain. Moulin Huet Water Lane (Luff).
T. terreum, *Schaef.* Saints' Bay cliffs (Luff).
T. scalpturatum, *Fr.* Rare in Britain. L'Ancresse Common (Hocart).
Marasmius archyropus, *Fr.* Mielles, Vale (Hocart).
M. Wynnei, *B. & Br.* Rare in Britain. Talbots Valley (Luff).
M. prasiosmus, *Fr.* Grand Havre (Derrick).
M. urens, *Fr.* Near Ozanne's Mill (Luff).
Collybia atrata, *Fr.* Petit Bot cliffs (Luff).
C. exsculpta, *Fr.* In a greenhouse near Castel Church (Collenette).
C. nummularia, *Bull.* L'Ancresse Common (Hocart).
Mycena stylobates, *Pers.* Saints' Bay (Luff).
Russula xerampelina, *Fr.* Oberland, St. Andrew's (Le Lacheur).

Lactarius thejogalus, *Fr.* Norgiots (Le Lacheur).
Laccaria bella, *Pers.* Norgiots (Le Lacheur).
Clitocybe augustissima, *Fr.* Fir plantation near Jerbourg (Luff).
C. flaccidus, *Sow.* Hubit Lanes (Luff).
C. Trogii, *Fr.* Cobo (Luff).
Omphalia integrella, *Pers.* Grand Havre (Derrick).
O. belliæ, *Johnst.* Rare in Britain. Ivy Castle (Derrick).
O. umbellifera, *Linn.* L'Ancresse Common (Luff).
O. striæpileus, *Fr.* Norgiots (Le Lacheur).
O. Luffii, *Mass.* (nov. sp.) A remarkably fragrant species. Cliffs at Icart, Jan. 3, 1898 (Luff). Cliffs on west side of Moulin Huet (Derrick).
Pleurotus septicus, *Fr.* On a bramble stem, Fort George (Derrick).
Hygrophorus aureus, *Arrh.* Vallon grounds, St. Martin's (Derrick).
H. nemoreus, *Fr.* Belvidere (Luff).
Pluteus cervinus, *Schaef.* Norgiots (Le Lacheur).
Entoloma speculum, *Fr.* Cliffs at Pleinmont Point (Luff).
E. clypeatum, *Linn.* Garden, Burnt Lane (Luff).
E. prunuloides, *Fr.* Jaonnet cliffs (Miss Dawber). Pleinmont Point (Luff).
E. porphyrophæum, *Fr.* Cliffs at Pleinmont Point (Luff).
Leptonia anatina, *Lasch.* Saints' Bay cliffs (Luff).
L. placida, *Fr.* Oberland Lane (Le Lacheur).
Clitopilus prunulus, *Scop.* Saints' Bay cliffs (Luff).
Pholiota ægerita, *Fr.* Garden, Indiana (Mrs. Boley).
P. molliscoria, *Cke. & Mass.* Rare in Britain. Near Castel Church (Collenette).
P. præcox, *Pers.* L'Ancresse Common (Derrick).
Bolbitius Boltoni, *Fr.* Norgiots (Le Lacheur).
B. grandiusculus, *Cke. & Mass.* Petit Bot (Derrick).
Inocybe asterospora, *Quel.* L'Ancresse Common (Hocart).
Hebeloma mesophæum, *Fr.* Cobo (Luff).
Naucoria conspersa, *Pers.* Norgiots (Le Lacheur).
N. pediades, *Fr.* Norgiots (Le Lacheur).
N. melinoides, *Fr.* Petit Bot (Derrick).
Galera rubiginosa, *Pers.* Saints' Bay cliffs (Luff).
G. ovalis, *Fr.* Cliffs at Icart (Luff).
Cortinarius ochroleucus, *Fr.* Icart cliffs (Luff).
Agaricus pratensis, *Schaef.* Rare in Britain; common in France; edible. Garden, Mount Durand (Derrick).
A. augustus, *Fr.* Very rare in Britain. One of the best edible mushrooms. In a hedgebank on the Forest Road (Luff).
Stropharia stercoraria, *Fr.* Jerbourg (Luff).
S. melasperma, *Bull.* Jerbourg Point, and garden, Burnt Lane (Luff).
S. inuncta, *Fr.* Petit Bot cliffs (Luff).
S. æruginosa, *Curt.* La Colomberie, Ruettes Brayes (Miss Domaille).
Hypholoma hydrophilus, *Bull.* Petit Bot cliffs (Luff).
H. catarius, *Fr.* Norgiots (Le Lacheur).
H. cascus, *Fr.* Cliffs at Pleinmont Point (Luff).
Psilocybe udus, *Pers.* Moulin Huet (Luff).

Psilocybe subericæus, *Fr.* Saints' Bay (Luff).
P. squalens, *Fr.* A rare species everywhere. Saints' Bay (Luff).
P. bullacea, *Bull.* Moulin Huet (Luff).
Psathyra elata, *Mass.* Cationoc, near Perelle (Luff).
Coprinus ephemerus, *Fr.* Moulin Huet cliffs, on dung (Derrick).
C. Spraguei, *B. & C.* Norgiots (Le Lacheur).
C. aratus, *B. & Br.* Hubit Lanes (Mrs. Marquand).
C. ovatus, *Schaef.* Edible, with a very delicate aroma and flavour. L'Ancresse Common (Hocart).
Boletus duriusculus, *Schulz.* Norgiots (Le Lacheur).
Polyporus chioneus, *Fr.* On old wood in a well near St. Martin's Church (Cameron).
Fomes conchatus, *Fr.* On a furze hedge, Norgiots (Le Lacheur).
F. ribis, *Fr.* Saints' Bay and Jerbourg (Luff).
F. annosus, *Fr.* A very destructive parasite to conifers, attacking the roots and soon killing the tree. Vallon grounds (Derrick).
Poria bombycina, *Fr.* Sausmarez Lodge, Queen's Road (Derrick).
P. hibernica, *B. & Br.* Sausmarez Lodge (Derrick).
P. vitrea, *Pers.* On a chestnut tree, Norgiots (Le Lacheur).
Dædalea cinerea, *Fr.* Fort Bay (Luff).
Caldesiella ferruginosa, *Sacc.* Sausmarez Lodge (Derrick).
Cyphella Curreyi, *B. & Br.* On elm bark, Norgiots (Le Lacheur).
C. capula, *Fr.* On white currant, Norgiots (Le Lacheur).
Hymenochæte tabacina, *Lev.* Saints' Bay (Luff).
H. leonina, *B. & C.* L'Ancresse Common (Luff).
Corticium calceum, *Fr.* Saints' Bay, Jerbourg and l'Ancresse Common (Luff).
Peniophora cinerea, *Cke.* Saints' Bay cliffs (Luff). Norgiots (Le Lacheur).
P. incarnata, *Mass.* Poidevins, St. Andrew's (Quick).
P. gigantea, *Mass.* Ivy Castle (Derrick).
Coniophora incrustans, *Mass.* Garden, Burnt Lane (Luff).
Clavaria inæqualis, *Berk.* Jerbourg (Luff).
Dacryomyces macrosporus, *B. & Br.* Garden, Burnt Lane (Luff).
Næmatelia encephala, *Fr.* On gooseberry, Norgiots (Le Lacheur).
Tremella lutescens, *Pers.* Cliffs at Pleinmont Point (Luff).
Exidia albida, *Bref.* Petit Bot (Luff).

GASTROMYCETES.

Cyathus vernicosus, *D.C.* The Bird's Nest Fungus. Bellieuse Vineries, St. Martin's (Cameron).

ASCOMYCETES.

Valsa leiophemia, *Fr.* Moulin Huet Water Lane (Luff).
V. ceratophora, *Tul.* On elm, Norgiots (Le Lacheur).
V. stilbostoma, *Fr.* Fir plantation near Jerbourg (Luff).
Diatrype disciformis, *Fr.* Cobo (Luff).
Byssosphæria aquila, *Fr.* On an apple tree, Norgiots (Le Lacheur).

Byssosphæria phæostroma, *Mont.* Galliennes, St. Andrew's (Royle).
Chætomium elatum, *Kze.* Norgiots (Le Lacheur).
Sordaria coprophila, *Ces.* On dung, Friquet, Castel (Derrick).
Hypoxylon marginatum, *Berk.* On a willow stump, Norgiots (Le Lacheur).
Sphæria glis, *Berk. & Curr.* On sycamore, Norgiots (Le Lacheur).
S. callicarpa, *Curr.* Norgiots (Le Lacheur).
S. rubella, *Pers.* Fir plantation near Jerbourg (Luff).
S. pulveracea, *Ehr.* On elm, Catioroc, near Perelle (Royle).
Nectria mammosa, *Phil. & Plow.* On an apple tree, Norgiots (Le Lacheur).
Phyllachora ulmi, *Fckl.* Talbots Valley (Luff). Garden, Indiana, St. Martin's (Mrs. Marquand).
Rhopographus filicinus, *Fckl.* Fir plantation near Jerbourg (Luff).
Hysterographium fraxini, *Denot.* Petit Bot (Luff).
Hypoderma virgultorum, *D.C.* Saints' Bay (Luff).
Peziza ampliata, *Pers.* In greenhouse, Bellieuse Vineries, St. Martin's (Cameron).
P. ochracea, *Boud.* In greenhouse, Bellieuse Vineries (Cameron).
Neottiella nivea, *Sacc.* Norgiots (Le Lacheur).
Sphærospora asperior, *Sacc.* Norgiots (Le Lacheur).
Lachnea ascoboloides, *Mass.* L'Ancresse Common (Luff). Moulin Huet cliffs (Derrick).
L. hirta, *Gill.* Near St. Martin's Church (Cameron).
Helotium herbarum, *Fr.* L'Ancresse Common (Luff).
Mollisia cinerea, *Karst.* On furze stems, Norgiots (Le Lacheur).
M. atrata, *Karst.* Norgiots (Le Lacheur).
Cenangium pulveraceum, *Fr.* Fir plantation near Jerbourg (Luff).
Ascobolus æruginosus, *Fr.* Bellieuse Vineries (Cameron).
A. immersus, *Pers.* Petit Bot (Derrick).
Ryparobius Crouani, *Phil.* L'Ancresse Common (Luff).
Propolis faginea, *Karst.* Talbots Valley (Luff).
Rhytisma salicinum, *Fr.* Plantation, South Esplanade (Luff).
Pilobolus longipes, *Van Tieg.* A rare species in Britain. On dung, Lower Rohais and Petit Bot (Derrick).
P. roridus, *Fr.* Hougue du Pommier (Derrick).
Syzygites megalocarpus, *Ehr.* In a flower pot in a shed, Valnord Road (Derrick). On decaying *Boletus*, Oberland, St. Andrew's (Le Lacheur).
Cystopus cubicus, *Grev.* Mielles, Vale (Hocart).

HYPHOMYCETES.

Oospora microsperma, *Sacc.* Garden, Burnt Lane (Luff). Bellieuse Vineries (Cameron).
Oidium chrysanthemi, *Rab.* On chrysanthemum leaves in a greenhouse at l'Islet (Collenette).
Trichoderma lignorum, *Harz.* Norgiots (Le Lacheur).
Ovularia obliqua, *Oudem.* On dock leaves, Fermain Lane (Mrs. Marquand).
Sepedonium chrysospermum, *Fr.* Said to be the conidial form of *Hypomyces chrysospermum*. Garden, Norgiots, on immature *Boleti*, attacking them before they appear above the ground (Le Lacheur).

Ramularia pruinosa, *Speg.* Gardens by the Bathing Places (Derrick). Moulin Huet, on *Gunnera* (Mrs. Marquand).

Helminthosporium Smithii, *B. & Br.* L'Ancresse Common (Luff). Norgiots (Le Lacheur).

H. scolecoides, *Cord.* On holly, Norgiots (Le Lacheur).

Macrosporium heteronemum, *Sacc.* On leaves of Fragrant Butterbur, Varclin, St. Martin's (Mrs. Marquand).

Stilbum erythrocephalum, *Ditm.* Petit Bot cliffs (Luff).

Fusarium lateritium, *Nees.* On a broccoli stump, Norgiots (Le Lacheur).

SPHÆROPSIDEÆ.

Cytospora nivea, *Fckl.* On a bramble stem, Catioroc, near Perelle (Royle).

Darluca filum, *Fr.* Near Castel Church (Collenette).

Septoria hederæ, *Desm.* Catioroc, near Perelle (Royle).

S. virgaureæ, *Desm.* On chrysanthemum leaves in a greenhouse at l'Islet (Collenette).

HYPODERMII.

Uromyces fabæ, *Cke.* On leaves of broad beans, garden, Indiana, St. Martin's (Miss Boley).

U. poæ, *Rab.* Petit Bot (Luff).

Puccinia lychnidearum, *Link.* On Red Campion leaves, Fermain Lane (Mrs. Marquand).

P. ægopodii, *Wint.* Near Fort George (Luff).

P. prenanthis, *Fckl.* Petit Bot (Luff).

Phragmidium fragariæ, *Wint.* On leaves of Barren Strawberry, Petit Bot (Luff).

Ustilago longissima, *Tul.* On Reed leaves, Grande Mare (Luff).

U. Salweii, *B. & Br.* On Meadow Soft Grass *(Holcus mollis)*. The type specimen of this fungus is in the Kew Herbarium, and the label shows that it was collected at St. Martin's, Guernsey, by the Rev Thomas Salwey, as far back as the year 1847. It does not appear to have been found since.

MYXOGASTRES.

Craterium confusum, *Mass.* Galliennes, St. Andrew's (Royle).

Diachæa quercina, *Fr.* On elm bark, Norgiots (Le Lacheur).

THE RAINFALL OF GUERNSEY FOR THE YEAR 1898.

BY MR. A. COLLENETTE, F.C.S.

As in previous years, I have to acknowledge the kindness of several gentlemen who have co-operated in the collection of rain and in providing me with the quantities. The data thus supplied has enabled me to supply a fairly full account of the distribution of the rain over our insular area.

The observers are E. Chas. Ozanne, Esq., Jurat, J. J. Carey, Esq., S. C. Curtis, Esq., and Mr. B. Rowswell.

The stations are given in order of elevation in Table I.

TABLE I.

Position.	Elevation.	Observer.	On.	Period of Observation.
Les Blanches....	300 feet	Mr. B. Rowswell	East Coast	5 years.
Beaulieu.....	190 ,,	Mr. A. Collenette	East Coast	57 ,,
Mont Saint	100 ,, ?	S. C. Curtis, Esq.	West Coast	——
Claire Mare	50 ,,	J. J. Carey, Esq.	West Coast	3 years.
L'Ancresse	33 ,,	E. C. Ozanne, Esq.	North Coast	2 ,,

Of the series of observations commenced by Dr. S. E. Hoskins, F.R.S., and continued by myself, we now possess the results and averages of 56 years. The length of the record makes the means obtained valuable, and I have thought it best to refer all the readings to these averages. Notwithstanding this fact, I think you will be satisfied that the results obtained by the other observers will tend to modify our figures and to prove that the place of greatest fall is the town.

Last year I divided the stations into high and low levels. It is hardly necessary to continue this plan, but I would draw attention to the fact that the results thus brought out last year are confirmed this, for the two highest elevations give an average fall of 33·61 inches, whilst the station of the north-west coast and also of low elevation give 27·57 inches, a difference of 6·04 inches. If this were due to low elevation it would be against the experience of the world; we, therefore, have to look for another cause of the difference. As I hinted last year I believe it to be due to the influence of the high land, which causes a heavier fall on the lee side. As the winds which prevail in wet weather are south-west, it follows that the east coast is on the lee side and therefore has a greater rainfall.

TABLE II.

Monthly Totals at Hauteville, St. Peter-Port; Claire Mare, St. Peter-in-the-Wood; Les Blanches, St. Martin's; L'Ancresse, Vale, and Mont Saint, St. Saviour's.

Months.	Hauteville.	Claire Mare.	Les Blanches.	L'Ancresse.	Mont Saint.	Average of 56 years' observations.
January	0·79	0·62	0·84	0·18	—	3·81
February	2·66	2·22	2·27	2·64	—	2·57
March	1·67	1·41	1·61	1·34	—	2·50
April	2·26	1·91	2·33	1·74	—	2·28
May	4·64	3·61	5·03	3·77	—	2·18
June	1·61	1·24	1·55	1·18	—	2·03
July	0·99	0·72	1·00	1·03	—	2·25
August	3·65	3·41	3·41	3·08	3·53	2·44
September	0·84	0·64	0·86	0·89	0·84	3·15
October	4·57	2·72	4·11	3·79	—	4·96
November	5·36	5·15	4·84	3·85	—	4·47
December	5·32	3·94	5·01	4·07	—	4·12
Total	34·36	27·59	32·86	27·56	—	36·76

In Table III. I give you a list of the differences between the falls at each station and the 56 years' average, with the wet and dry months.

This table shows that January, February, April, June, July, September and October were dry months for the island, though not for all the Stations.

The final result is that we are about $2\frac{1}{2}$ inches below the normal fall, all Stations considered, but as regards my own observations the fall is only 2 inches below.

TABLE III.

DIFFERENCES AT EACH STATION FROM THE 56 YEARS' AVERAGES.

Amounts in inches.

1898. Months.	Haute-ville.		Claire Mare.		Les Blanches.		L'Ancresse.		Mont Saint.		Mean of all Stations.	
	+	—	+	—	+	—	+	—	+	—	+	—
January	—	3·02	—	3·19	—	2·97	—	2·93	—	—	—	3·03
February	0·09	—	—	0·35	—	0·30	0·07	—	—	—	—	0·49
March	—	0·83	—	1·09	—	0·89	—	1·16	—	—	0·99	—
April	—	0·02	—	0·37	0·05	—	—	0·54	—	—	—	0·88
May	2·46	—	1·43	—	2·85	—	1·49	—	—	—	2·06	—
June	—	0·42	—	0·79	—	0·48	—	0·85	—	—	—	0·63
July	—	1·25	—	1·53	—	1·25	—	1·22	—	—	—	1·34
August	1·21	—	0·97	—	0·97	—	0·84	—	1·09	—	1·01	—
September	—	2·21	—	2·51	—	2·29	—	2·26	—	2·31	—	2·39
October	—	0·09	—	2·24	—	0·85	—	1·17	—	—	—	1·09
November	0·89	—	0·68	—	0·37	—	—	0·62	—	—	1·36	—
December	1·10	—	—	0·18	0·89	—	—	0·05	—	—	1·76	—
Totals	5·75	7·84	3·08	12·25	5·53	9·03	2·40	10·80	—	—	7·18	9·85
Net difference	—	2·09	—	9·17	—	3·50	—	8·40	—	—	—	2·67
Wet months	5	—	3	—	5	—	3	—	—	—	5	—
Dry months	—	7	—	9	—	7	—	9	—	—	—	7

The question as to the amount of difference which the new Stations are likely to make on the rainfall figures is answered in Table IV.

TABLE IV.

MEAN RAINFALL OF GUERNSEY FOR 1896, 1897 AND 1898, AND FOR THE PERIOD COMPRISED IN THESE THREE YEARS, AS SHOWN BY AVERAGING THE WHOLE OF THE STATIONS.

Months.	1 1896.	2 1897.	3 1898.	4 1896. 1897. 1898.	5 Average at St. Peter-Port. 56 years.	6 Difference of Columns 4 and 5.
January	1·18	2·71	0·61	1·50	3·81	— 2·31
February	0·43	2·62	2·45	1·83	2·57	— 0·74
March	3·21	4·76	1·51	3·16	2·50	+ 0·66
April	0·77	3·59	2·06	2·14	2·28	— 0·14
May	0·20	2·37	4·26	2·27	2·18	+ 0·09
June	1·87	3·46	1·39	2·24	2·03	+ 0·21
July	1·08	0·66	0·93	0·89	2·25	— 1·36
August	2·18	4·17	3·39	3·24	2·44	+ 0·80
September	6·48	3·62	0·81	3·63	3·15	+ 0·48
October	6·80	0·87	3·79	3·82	4·96	— 1·14
November	1·97	1·44	4·80	2·73	4·47	— 1·74
December	4·69	4·38	4·60	4·55	4·12	+ 0·43
Totals	30·88	34·92	30·60	32·13	36·76	— 4·63

We have it here shown that the whole of the Stations give a mean for the last three years of 32·13 inches, whilst Hauteville for the same period gives a mean of 35·26, thus showing that Hauteville requires a correction of 3·13 inches per annum to bring it to the mean of the whole island. Again the average of the 56 years of town rainfall differs by 4·63 inches from the mean of all the Stations.

If you look at the results published last year you will be surprised to find that this year confirms and accentuates the differences then found.

TABLE V.

NUMBER OF WET DAYS AT EACH STATION COMPARED WITH THE AVERAGES FOR 56 YEARS.

Months.	Hauteville.	Claire Mare.	Les Blanches.	L'Ancresse.	Mont Saint.	Averages.
January	9	4	11	5	—	19
February	22	20	22	21	—	15
March	20	15	22	16	—	15
April	11	10	14	10	—	13
May	20	17	20	16	—	11
June	11	10	15	6	—	11
July	9	6	8	5	—	11
August	11	9	12	8	10	12
September	8	5	9	5	7	14
October.....	22	19	21	17	—	19
November.....	18	17	22	14	—	19
December.....	20	19	22	13	—	18
Totals.....	181	151	198	136	—	161

In the table of wet days l'Ancresse comes out first with 136, Claire Mare second with 151, the Town next with 181, and St. Martin's proves to be wettest with 198.

TABLE VI.

HEAVY FALLS OF RAIN OCCURRING IN ONE DAY.

Date.		Hauteville.	Claire Mare.	Les Blanches.	L'Ancresse.	Mont Saint.
Month.	Day.	FALLS BETWEEN HALF-AN-INCH AND ONE INCH.				
February	22	0·62	0·88	—	—	—
April	14	0·72	0·76	0·73	0·66	—
May	5	0·54	—	0·60	—	—
,,	13	—	—	—	0·51	—
,,	14	0·73	0·63	0·73	0·61	—
,,	20	0·70	0·62	0·69	0·67	—
,,	23	0·52	0·50	0·90	—	—
,,	25	—	—	—	—	—
June	23	0·50	—	—	—	—
August	7	0·81	0·79	0·68	0·56	0·51
September	29	—	—	—	0·63	—
October	11	—	—	—	0·60	—
,,	16	0·56	—	0·55	0·50	—
,,	20	0·57	—	0·52	—	—
,,	29	—	0·63	—	—	—
November	12	0·60	0 90	0·63	0·56	—
,,	23	0·52	0·64	—	0·66	—
,,	24	0·60	—	—	—	—
,,	27	—	—	—	0·78	—
December	7	0·57	0·51	0·60	0·53	—
,,	8	0·58	0·50	—	0·54	—
,,	31	0·72	0·55	0·52	0·54	—
		FALLS OF ONE INCH AND ABOVE.				
February	22	—	—	—	1·11	—
August	6	1·60	1·83	1·53	1·86	2·23
October	29	1·37	—	1·23	1·11	—
November	27	1·08	1·52	1·15	—	—
December	27	1·41	1·18	1·17	1·27	—

I should say that the observations at Mont Saint were taken during August and September only, and the results are worked up for those two months only.

TABLE VII.

ABSOLUTE DROUGHTS.

Date and Interval.	Days.	Station.
From June 9 to 22..	14	L'Ancresse.
,, ,, ..	14	Claire Mare.
,, July 4 to 18..	15	L'Ancresse.
,, ,, ..	15	Claire Mare.
,, ,, ..	15	Hauteville.
,, ,, ..	15	Les Blanches.
,, Aug. 9 to 23..	15	L'Ancresse.

PARTIAL DROUGHTS.

Date and Interval.	Days.	Fall.	Station.
Jan. 1 to Feb. 2	33	0.31	L'Ancresse.
Aug. 29 to Sept. 26..	29	0·22	,,
Aug. 31 to Sept. 27..	28	0·19	Claire Mare.

RAINFALL IN THE LAKE DISTRICT.

A correspondent (Mr. Bakewell, of Keswick) sends to Mr. Symons a comparative record of the rainfall in the Lake District for 1898. It may be compared with the record above.

	Days on which ·01 or more fell.	Inches.
Ambleside	243	89·64
Bowness	219	67·57
Boot (Eskdale)	258	69·84
Coniston	219	109·15
Dungeon Ghyll	242	130·78
Elterwater	225	104·77
Esthwaite	239	72·41
Grasmere	231	101·95
Hasness (Buttermere)	217	104·95
Keswick	233	56·27
Ditto (Derwent Island)....	227	60·45
Rosthwaite	220	115·48
Seathwaite (Borrowdale) ..	—	152·80
The Stye	—	202·20
Seathwaite (Daddon).....	252	87·48
Ullswater (Patterdale)	224	84·85
Ditto (Hallsteads)	151	53·98
Wastwater	—	108·02
Wythburn	—	92·90

ON THE RUBI AND ROSÆ OF THE CHANNEL ISLANDS.

BY THE REV. W. MOYLE ROGERS, F.L.S., AND F. A. ROGERS.

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———o———

At the end of last June we spent ten days in Guernsey and a week in Jersey. Unfortunately we were unable to visit Alderney; but we had a satisfactory day in Sark, under the guidance of Mr. Derrick, the President of the Botanical Section of the Guernsey Natural History Society. To him and to all the members of that Society, and especially to its Secretary, Mr. Royle, we are greatly indebted for advice and help; as we are also to Mr. Lester, of Jersey. Although we cannot of course flatter ourselves that we have nearly mastered the *Rubus* and *Rosa* flora of the three islands we visited, we venture to hope that this paper will contain a useful contribution towards our knowledge of it; and we hardly expect that further research will add very greatly to the number of the species now recorded.

As may be gathered from the notes which follow, the genus *Rosa* is very indifferently represented in the islands; but the Rubi are abundant and of considerable interest. Professor Babington's *Primitiæ Floræ Sarnicæ* was published in 1839, before he had given any special study to the latter genus. Consequently we find him crediting the islands with only four species, and it is probably quite impossible now to ascertain what plants he referred to under the names he gives. Two out of the four, viz., *R. villicaulis* and *R. Koehleri*, we searched for in vain; and his other two names, *R. rhamnifolius* and *R. fruticosus*, are confessedly used in an aggregate sense only. A few years ago, in a very hurried visit, the Rev. Augustin Ley was able to record two species of great interest from Jersey, *R. Questierii* and *R. Borœanus*. And so the *Rubus* list stood, so far as we could ascertain, at the time of our visit last summer.

We saw in all about thirty distinct forms, as named in the following notes, besides five or six obscure ones which may prove too strictly local to require naming. These last, with one exception in Guernsey and one in Sark, occurred in Jersey, where, as might be expected, the close alliance with British forms is less marked than it is in the more western islands. In all the islands, however, the vast majority of the brambles seen are practically identical with our British forms.

From Jersey we crossed to Brittany, and, after a few days at Dinan, made our way through Normandy to Dieppe and Boulogne. Our opportunities for studying the Rubi and Rosæ of north-west France did not prove good ; but we have been encouraged to believe that a very brief reference to the French species seen by us, in connection with the Channel Islands records, will not be thought out of place in this paper. No localities are given for France or for the islands but those in which we saw the plants in question growing ; except in the case of two Sark rose localities of Mr. Derrick's furnishing, of which we saw dried specimens. As on so many previous occasions, we are greatly indebted to Dr. Focke for his ready and valuable help in our efforts to name some of the obscurer Rubi.

RUBI.

SUBERECTI.

Rubus affinis, *Wh. & N.*, var. *Briggsianus*, Rogers. Guernsey : in several places, especially at St. Sampson's, Petit Bot Bay and Cobo. Jersey : in one spot near the Waterworks Valley. Exactly the British form described in *Journal of Botany*, 1894, 42. The only sub-erect bramble seen by us in the islands.

RHAMNIFOLII.

R. incurvatus, *Bab.* Jersey : St. Aubin's Bay. Not the typical plant, but a form with leaflets thinner, more roundish, and with paler felt beneath, which is found in some quantity in at least three south England counties.

R. rhamnifolius, *Wh. & N.* (sp. coll.). Guernsey : Fermain and Petit Bot Bays ; very near the ordinary British form (*R. cardiophyllus*, Lefv. and Muell.), if not identical with it. Jersey : Rozel and Pont Marquet ; small leaved forms. Normandy : Bonsecours Hill, near Rouen, in plenty ; just the plant we are calling *R. cardiophyllus*, which (unlike the rare typical *R. rhamnifolius*) seems dispersed throughout Western Europe, and is one of our commonest and most constant forms.

R. pulcherrimus, *Neum.* Guernsey : Rather common, especially about St. Peter-Port, Petit Bot Bay, and near Vale Castle. Jersey : Trinity Hill ; Waterworks Valley.

R. dumnoniensis, *Bab.* Guernsey : Petit Bot Bay, in good quantity ; and in one or two other localities. Sark : Near Dixcart Hotel, in plenty. Jersey : One of the most frequent brambles. Especially abundant at Gorey Bay, Val des Vaux, Waterworks Valley, and Pont Marquet. Usually identical with our luxuriant British form ; but a second form

occurs in Sark, and at Petit Bot Bay, Guernsey (unknown thus far in Britain), with terminal leaflet subrotund and strongly cordate.

R. rhombifolius, *Weihe.* Guernsey: Fermain Bay.

R. Argentatus, *P. J. Muell.* Guernsey: One of the most abundant brambles in the island; generally distributed, but variable. Jersey: Fauvic, Waterworks Valley, Pont Marquet. Abundant in places, but apparently not so general as in Guernsey. Brittany: La Garaye, near Dinan. Normandy: Hill above La Bouillé.

Var. *robustus* (P. J. Muell). Here, rather than under the type, appear to belong forms that occur at Cobo, near St. Martin's Church, Fermain Bay, and St. Sampson's, in Guernsey, and near Coutances, in Normandy; but the range of variation is considerable and somewhat bewildering. A very handsome plant occurring in good quantity in Waterworks Valley, Jersey, Dr. Focke thinks is his *R. macrostemon*, though it differs from the German plant in its more luxuriant and diffuse panicle. It seems to go off from *R. robustus* towards *R. danicus*, Focke, while on the whole best placed perhaps in the *Discolores* group.

DISCOLORES.

R. Rusticanus, *Merc.* Very common in the islands and on the French coast opposite them, and at least as variable as in England.

SILVATICI.

R. macrophyllus, *Wh. & N.* Jersey: Deep lane, Bouley Bay; a shade form. Brittany: La Garaye, near Dinan. Normandy: Moulineux, wood border.

Var. *macrophylloides*, Genev. Guernsey: rather frequent: St. Sampson's, St. Martin's, Fermain Bay. Sark: Very fine and remarkably abundant, apparently more so than all the other brambles in the island put together. Dr. Focke considers this "very near *R. Schlechtendalii*." It seems best to regard it as a strong and highly glandular form of that variety. In England thus far found only in Monmouthshire and South Devon with certainty, though a rather similar form has been gathered in west Gloucestershire and Salop.

R. Questierii, *Lefv. & Muell.* Jersey: Val des Vaux, the locality in which this species was discovered by the Rev. Augustin Ley several years ago. Elsewhere in the islands we searched for it in vain, though it is probably not confined to this one Jersey locality, as it seems remarkably abundant on the French coast. Brittany: La Garaye and near Lehon, in plenty. Normandy: Coutances and elsewhere; Moulineux, abundant.

R. Sprengelii, *Weihe.* Guernsey: Fermain Bay. Jersey: Anne Port and Bouley Bay. Quite typical in both islands.

R. micans, *Gren. & Godr.* Jersey: Gorey and Anne Port. Brittany: La Garaye, abundant. Normandy: Certainly one of the commonest brambles, and usually identical with Genevier's own specimens of his *adscitus* and our typical south-west England form.

R. leucostachys, *Schleich.* As an aggregate species abundant in Guernsey and Jersey, though usually in an untypical form. Seen also on Sark. Brittany: What seems a form of this at La Garaye. Normandy: Moulineux.

Var. *angustifolius*, Rogers. Guernsey: Fermain Bay. Jersey: Pont Marquet, Anne Port, Rozel. Normandy: Moulineux. Nearly allied to *R. leucostachys*, and considered by Dr. Focke to be also "near *R. argyranthus*, Boul. & Luc.," are plants which occur in some quantity at Norgiots, Guernsey, and at Bouley Bay, Jersey; but these demand further study.

R. adenanthus, *Boul. & Gillot.* Dr. Focke has thus named a very handsome plant which grows in some quantity in Gorey Bay, Jersey. In general appearance it seems intermediate between *R. leucostachys* and *R. radula*, Weihe, while also somewhat recalling *R. Gelertii*, K. Frid., and strong forms of *R. micans*, Gren. & Godr. Nothing quite like it has yet been identified in Britain. It agrees well with M. Gillot's authentic French specimens lent by Mr. Gelert, of Copenhagen. Their label is as follows: "Association rubologique, 1881. No. 429, *Rubus adenanthus*, Boul. et Gill. Saône-et-Loire. Talus de la route d'Autun à St. Léger. Sous Beuvrai, en face du Nameau de Channay: sol granitique et sablonneux, alt. 800 m. 11 juillet, 1881. Coll. Gillot." The Gorey Bay locality is very sunny, and the soil, I believe, is granitic. The plant, as it grows there, may be thus described:—Stem bluntly angular and striate, of a dull purplish brown, rather thickly clothed with fine single and clustered hairs which nearly hide the numerous shortly stalked glands and few scattered pricklets. Prickles many, strong, subequal, patent or slightly declining, nearly confined to angles. Leaves 3-5-nate pedate, grey or whitish-felted beneath, with compound incised toothing. Terminal leaflet obovate-acuminate, with rather narrow emarginate or subentire base. Panicle pyramidal-corymbose, with subracemose ultra-axillary top, short ascending cymose intermediate branches, and longer more strongly ascending racemose branches below; the rachis and pedicels with many slender falcate and declining prickles, and patent hairs hiding the acicles and stalked glands. Calyx with sunken glands, and attenuate points ascending after fall of petals. Stamens rather short, but exceeding styles. No fruit seen.

EGREGII.

R. Borræanus, *Genev.* Guernsey: Lane above Glatney Esplanade, St. Peter-Port; a form with very few pricklets on faces of stem, and an abnormally prickly panicle. St. Sampson's: a plant which also seems to go best under this species. Jersey: General; quite typical in some places, but variable in others. Fauvic, Les Marais, and Val des Vaux, in plenty; Waterworks Valley, Gorey, Anne Port. First reported from Jersey by Rev. Augustin Ley.

R. Borreri, *Bell-Salt.* Guernsey: Abundant and characteristic near Vale Castle, in quarries between St. Sampson's and L'Ancresse Common, and at Ville-au-Roi. Jersey: Bouley Bay.

RADULÆ.

R. radula, *Weihe*, var. *anglicanus*, Rogers. Jersey: Waterworks Valley and Pont Marquet. In good quantity, and in all respects identical with the luxuriant form of this variety so common in the Bournemouth neighbourhood, in east Dorset, and south-west Hants. No other well-marked form of *R. radula* seen, though a plant found near Fauvic, in Jersey, looks as if it might be a weak state or form of this species.

R. rudis, *Wh. & N.* Guernsey: Fermain Bay.

R. Bloxamii, *Lees.* Guernsey: Widely distributed, and mostly quite characteristic. Petit Bot Bay, La Valette, and elsewhere about St. Peter-Port; St. Martin's, Norgiots.

Another handsome plant of this group, clearly allied to *R. longithyrsiger*, Lees, but with a much broader and more developed panicle than is found in that species, occurs in considerable quantity on the north coast of Jersey, between the churches of St. Mary and St. Lawrence, as well as in Waterworks Valley and in St. Aubin's Bay. But this remains unnamed at present.

No members of the groups *Koehleriani* and *Bellardiani* were observed in the islands.

CÆSII.

R. dumetorum, *Wh. & N., ferox*, Weihe. Generally distributed, but variable, as in Britain. Brittany: La Garaye, with white petals, as usually in England. Normandy: Near Coutances, with pink petals, as in Germany; Lison.

Var. *diversifolius* (Lindl.). Sark: Banks near the Dixcart Hotel, a weak form.

Var. *tuberculatus*, Bab. Jersey: Between Les Marais Railway Station and Fauvic, in some quantity.

R. corylifolius, *Sm.* (sp. coll.). Guernsey: Cobo; near Vale Church. Sark. Jersey: Gorey; Anne Port; Grosnez.

a. *Sublustris* (Lees). Jersey: Bouley Bay; the type.

b. *Cyclophyllus*, Lindeb. Guernsey: Fairly frequent. Jersey: Bouley Bay.

R. Balfourianus, *Blox.* Sark: Very characteristic, though weaker than the average plant. Jersey: Head of the Val des Vaux; an exceedingly luxuriant form.

R. caesius, *L.* Guernsey: Rather frequent. Jersey: Les Marais; Corbière. Not observed in great quantity. Normandy: Very general and variable.

R. laciniatus, *Willd.* Guernsey: Petit Bot Bay; not quite the usual form.

The only hybrid Rubi seen in the Channel Islands, as to the origin of which there seemed little room for doubt, are the following:—*R. rhamnifolius* × *leucostachys*. Jersey: Rozel—*R. rusticanus* × *tuberculatus*. Jersey: Les Marais.

A very brief notice of other Rubi observed in Brittany or Normandy, though *not in the Channel Islands*, may be of interest here.

R. suberectus, *Anders.* Brittany: In the valley of the R. Rance, near Dinan. A nearly unarmed but well-marked form of this species.

R. erythrinus, *Genev.* Brittany: La Garaye and elsewhere in the Dinan neighbourhood; common. Clearly the same plant as the one we are naming *R. erythrinus* in England, though showing a tendency to a broader and so more nearly subrotund terminal leaflet. At La Garaye occurs in some quantity what seems to be *R. erythrinus* × *micans*, *R. micans* being abundant there also. The apparent absence of *R. erythrinus* from the Channel Islands is remarkable.

R. oigoclados, *Muell. & Lefv.* Apparently a form of this. Brittany: Near Dinan. Normandy: Near Coutances. *Journal of Botany.*—Vol. 36, March, 1898.

R. Babingtonii, *Bell-Salt.* Normandy: Border of Moulineux Forest. A weak form, thus named by Dr. Focke.

R. rosaceus, *Wh. & N.* (sp coll.). Brittany: Near Dinan; a form near the British var. *infecundus*, Rogers.

R. Questierii × *rusticanus*. Normandy: Near Coutances.

ROSÆ.

Rosa pimpinellifolia, *L.* Guernsey: Grande Havre. Sark. Jersey: Frequent along the coast.

R. rubiginosa, *L.* Guernsey: Perrelle Bay. Sark, *Mr. Derrick!* Jersey: Gorey. Perhaps doubtfully native.

R. micrantha, *Sm.* Sark. Jersey: Pont Marquet.

R. canina, *L.* Generally but thinly distributed in Guernsey and Jersey. No form seen but var. *dumalis*, Bechst. Sark, *Mr. Derrick!* Brittany: Dinan neighbourhood; vars. *leutetiana* and *dumalis*, the latter in great quantity. Normandy: Var. *leutetiana*, La Bouillé; var. *dumalis*, generally distributed.

R. stylosa, *Desv.*, var. *systyla* (Bast). Sark: Dixcart Bay, several fine bushes. Apparently not before recorded from the islands. Brittany: Near Dinan.

Other roses seen in Normandy are :—

R. tomentosa, *Sm.*, var *scabriuscula* (Sm.), or form near it. Moulineux.

R. obtusifolia, *Desv.* La Bouillé.

R. arvensis, *Huds.* Moulineux.

THE RUBI OF GUERNSEY AND SARK.

BY THE REV. W. MOYLE ROGERS, F.L.S.

The numbers given in parenthesis are those of the London Catalogue, 9th edition.

R. Briggsianus (438b). Cobo, Petit Bot Bay, St. Peter's, St. Sampson's.

R. rhamnifolius (447). Fermain Bay, Petit Bot Bay.

R. pulcherrimus (449). La Vallette, lanes near Ville-au-Roi, Petit Bot Bay, near Vale Castle, St. Peter's.

R. dumnoniensis (451). Petit Bot Bay, Rocquaine Bay.

R. rhombifolius, *Weihe* (454). Fermain Bay.

R. argentatus (458). La Vallette, lanes near Ville-au-Roi, Norgiots, Fermain Bay, Petit Bot Bay, near Vale Castle, St. Peter's.

R. robustus (458b). Fermain Bay, St. Sampson's, Cobo.

R. rusticanus (459). Guernsey, generally distributed, very variable. Sark.

R. macrophyllus, var. *schlechtendalii*, Weihe (463). Very glandular form. St. Sampson's, Fermain Bay, St. Martin's, Sark. The prevailing bramble.

R. Sprengelii (468). Fermain Bay.

R. laciniatus, *Willd.* Not quite the usual form. Quarry, Petit Bot Bay.

R. leucostachys (472). Guernsey, generally distributed. Sark. Very variable in both islands.

R. angustifolius (472). Fermain Bay.

R. Borræanus, *F.* (474). St. Sampson's.

R. Borreri (481). Near Vale Castle, lanes near Ville-au-Roi, St. Sampson's. The Vale Castle form nearly typical; the St. Sampson's form var. *dentatifolius* or near it.

R. radula (483). Fermain Bay.

R. rudis, *Weihe* (487). Type or near it. Fermain Bay.

R. Lejeunei, *W. & N.*, var. *ericetorum*, Lefv. (491).

R. Bloxamii (494). Petit Bot Bay, St. Sampson's, La Vallette, Norgiots, St. Peter's, St. Martin's. Common,

R. ferox (522a). St. Sampson's, La Vallette, Petit Bot Bay, &c. Sark. Frequent.

R. diversifolius (522b). Sark (bank near Dixcart Hotel).

R. corylifoiius (523). Near Vale Castle, Cobo.

R Balfourianus (524). Sark, typical. Allied forms seen at St. Sampson's and Cobo.

R. cæsius (525). One locally, hill above Glategay Esplanade or St. Sampson's, I forget which.

R. Genevierii, *Bor.* Petit Bot Bay.

At Sark I also saw what might be *R. villicaulis* and a *dumetorum* hybrid.

ANCIENT NAMES OF THE BAYS, CREEKS, ROCKS, &c.,

ON AND NEAR THE COAST OF GUERNSEY AND THE OTHER ISLANDS OF THE BAILIWICK, WITH NOTES, &c.

BY THE REV. R. H. TOURTEL, B.D.

THE following list comprises the names of the bays, creeks, rocks, and other places on and near the coast of Guernsey and the other islands of the bailiwick. These names are placed in a direct line as far as possible, but it will sometimes happen that, owing to the distance of several rocks from the coast, this order cannot always be strictly adhered to. Explanations, however, are fully given, so that it is possible to trace the localities. To these names I have added some notes which may be useful to the different sections of the Guernsey Society of Natural Science, and which may tend to throw some light upon their history. Many of these rocks were in former times joined to the mainland; this is a most important point to remember, and it must be understood to qualify many of the names mentioned in the following list. *L'Académie des Sciences* in Paris lately observed that it is evident the land in this part of Europe subsides about nine mètres per century, and consequently, some rocks that are now visible, must in the course of time be submerged. Many of these names have a Keltic, others a Scandinavian, others again a Norman-French origin; some rocks have a history of their own, whilst many names seem to be entirely lost in obscurity. Feeling, however, how unwise it is, because we cannot have all we would desire, to forego what is within our reach, I have done my utmost to rescue these names from oblivion and to trace the meaning of the greater part of them.

The names are numbered for the sake of reference.

ABREVIATIONS.

Ar. ....Arabic.
B.....Bay.
Br. ....Breton.
C.....Creek.
Ch. ....Chaldee.
Cl.....Cliff.
Com. ..Compare.
Dan.....Danish.
Der.....Derived.
Dim. ..Diminutive.
Du. ....Dutch.
Eng.....English.
Fig. ....Figuratively.
Fr. ....French.
Ger.....German.
Gr. ....Greek.
Heb.....Hebrew.
I. .....Island or islet.
Ic.....Icelandic.
Ir.....Irish.
It.....Italian.
Kel. ....Keltic.
Lat. ....Latin.
L. lat. ..Low latin.
Lit. ....Literally.
Nor. ....Norwegian.
N. Fr. ..Norm.-French.
O. Fr. ..Old French.
Obs.....Obsolete.
P.....Point of land.
Pl. ....Plural.
Port. ..Portuguese.
Pr. ....Pronounced.
Prov. ..Proverb.
Provç. ..Provençal.
R.....Rock.
S. .....Spot on the sea.
San.....Sanskrit.
Sp. ....Spanish.
Sw. ....Swedish.
Syr. ....Syriac.
Trans. ..Translation.
Teu.....Teutonic.
V.....Valley.
W. ....Welsh.

GUERNSEY.

The word Guernsey is said to be der. from the Br. *kerniowè* or *kernioué*, horn or angle-shaped island. The form of the island is that of a harp or right-angled triangle, Br. *korn, kern*, horn. The final *è* = *ey* or *ay*, signifies island, *ow* or *ou* is the pl. termination. Com. w. *corn*, angle, anything projecting; *cornel*, angle, corner; Heb., *queren;* Gr., *keras;* Lat., *cornu*, horn.

ST. PETER-PORT.

1.—**Le Château Cornet** (Castle Cornet).—The following note appears in Tupper's History of Guernsey, p. 77. "According to the *Glossaire de la Langue Romane* (Paris, 1808) the word *Cornet*, from the eleventh to the sixteenth century, signified *lieu retiré, caché*, a retired place, secluded, or which may also bear the interpretation of a place of refuge, and we think it far possible that the castle took its name from that of the islet, which is said to have been called Cornet before it was fortified. Mr. G. Métivier states that "Cornez," when written in full, was the bas. Br. *Gourenès*, a half isle or holm, o. Fr., Heaume, whence the Holm-beach opposite, le Gallet-Hiaume. Truberville, one of our wardens under the early Plantagenets, dated a letter from this castle under the dim. name of Houmet, the small holm. There formerly existed some manuscript accounts in Fr. of the dedication of the various parish churches in the island, entitled "*La Dédicace des Eglises*," by which it appears that Sir Peter Cornet was Governor of Guernsey in the year 1312; and if these accounts were not now considered of most doubtful authority—of being indeed barefaced fabrications of names—we should rather derive the name of the castle from this functionary. It is related in the *Dédicace*, that at the consecration of the Church of St. Peter-Port, there were sixteen brothers of the name of Cornet, the sons of the same father and mother! Most probably this is also fabulous, and certain it is that the name of Cornet, if it ever existed in Guernsey, has long been extinct there."

"Gouernez" means "angle of fear."

2.—**Les Tremies** (or Termies).—R. Probably Kel. "The troughs" or perhaps "boundaries."

3.—**Ferico.**—R. A Kel. word. "Strong rock."

4.—**Forien.**—R. Possibly der. from Fr. *foraine*, "road badly sheltered."

5.—**Huitrière.**—R. "Oyster rock."

6.—**Moulinet.**—R. Kel. "Rounded." Br., *moul.*

7.—**Vermière.**—R. The pier leading to Castle Cornet is built on a part of this rock. 1. *Verm*, a worm used for bait; o. Fr., *verme*; It., *verme*, a worm. 2. On the other hand the word may be traced to a Kel. origin, signifying "pointed"; Br., *vern*, heap, point, mast; *gwern*, mast; W., *gwernen*, mast of a ship.

8.—**La pierre de Havelet.**—R. See 10.

9.—**Le Galet Heaume** (or Hiaume).—Fr., *galet*, a pebble. A beach with a mass of stones; *galet*, dim. of o. Fr., *gal*, large pebble; Heb., *gal*, a heap of stones; *gal*, der. from *galal*, to turn, move forward, roll away. For *hiaume*, see 1 (note on Castle Cornet). The latter word may also be traced to a Kel. origin, signifying lit. "the most ancient." This beach has ceased to exist since the construction of the new harbour, but the locality still bears the name.

10.—**Havelet Bay.**—*Hav.* can be traced to a Scandinavian origin; Dan., *hav.*, the sea. It may also be Kel. The meaning seems to be "very small bay or arm of the sea."

11.—**Le Creux à la morte femme.**

12.—**La boue à la morte femme.**—R. The term *boue* is Kel. The ordinary meaning is "sunken rock," in some cases "white rock."

13.—**Le Pissot.**—Perhaps a word der. from an onomatopœia analogous to the Ger., *zischeln*, to whistle; or a Kel. word signifying lit. "the fingers"; Br., *biziad*, *bizied*; W., *bysedd*.

14.—**La Valette.**—B.

15.—**La pointe des Terres.**—P. *Terres*, perhaps der. from Br., *terri*, to bury, intercept, shut out. I believe there was no lower thoroughfare before the construction of the new harbour.

16.—**Le Creux à tarre.**—*Tarre*, separation.

17.—**Le Géhannet** (or Jaonnet).—B. "Foamy spot" or "very visible spot." Br., *eon* = *jeon*, foam; *eóna*, to foam; W., *geian*, *ewyn*, foam; *ewynnu*, to foam; *ewyngant*, surge on a beach. See 180. Br., *ge*, place; *annat*, *anat*, visible.

18.—**Le Pissot de Putron.**—See 13. Putron, the name of the village above. See 13.

19.—**Le cap es hérondes.**—P. Fr. of the Cotentin, *érounde*; o. Fr., *arounde*, swallow.

20.—**Anfré.**—R. 1. Lat., *anfractus*, bent or broken round, winding. 2. The W. word *anfri* means "disrespect."

21.—**Piette.**—R. Kel., "dangerous."

22.—**Le Havre de la Marquise.**—C. The word "marquise" seems to mean "strong, powerful"; Br., *marc'her*.

23.—**Le Havre du Becquet.**—C. Br., *bec*, *bek*, point; *bechec*, pointed.

24.—**La basse du Gouficher.**—R. See 27. 24-26 form part of 27.

25.—**La noire.**—R. "The black rock."

26.—**La rouge.**—R. "The red rock."

27.—**Le Gouficher.**—R. 1. N. Fr. of Le Cotentin, *goufigue*, a kind of shell-fish noted for pearls; *gofiche* = haliotis tuberculata; *go*, bad; *fiche*, fish. 2. On the other hand, the word may be Kel. signifying "deceitful rock"; Br., *gou*, *gaou*, liar, deceitful; W., *gau*, false, lying; Br., *ficher*, to trust; "rock that deceives those who trust it."

Prov.—Le dix de Mai, des sardes au Gouficher.

Trans.—On the tenth of May, *sardes*, breams may be found at the Gouficher.

A small species of *sarde* is found on the coast of Sark; the inhabitants dry them and call them *berdelles*; Dan., *berede*, to make ready; *beredelse*, preparation, dressing; Sw., *bereda*, to prepare.

28.—**L'Iterière.**—R. Probably *huitrière*, oyster rock. N. Fr., *itre*, oyster.

29.—**L'Aiguillon de Fermain.**—R. *Aiguillon*, rock tapering in a point.

30.—**Fermain.**—B. This bay divides the parish of St. Peter-Port from that of St. Martin's. The word *fermain* means "strong rock; Br. and W., *fer*, *ffer*, strong; Br., *mean*, *men*, a rock; W., *maen*, *main*, a stone.

ST. MARTIN'S.

31.—**Les blancs bois.**

32.—**Le grand Creux.**

33.—**La Ricou.**—R. *Ricou* in Br. signifies "rock."

34.—**Le Hérichon.**—*Hérichon* = Fr., *oursin*, sea urchin; Lat., *echinus;* Gr., *echînos;* Sp., *erizo.*

35.—**Le Havre de la roque au piêgne.**—C. See 36.

36.—**La roque au piêgne.**—R. Kel., "rock of justice"; Br., *piern*, judge; *piêgne* might be corrupted from Br., *penn*, head. "Rock having a head," an appropriate term. Com. Sp., *peña*, high rock.

37.—**La Galée.**—The Kel. root *gal* means "strong, powerful."

38.—**Sous les côtils M. Naftel.**—The furze-brakes above formerly belonged to Mr. Naftel.

39.—**Le douit du ros.**—C. *Ros*, pr. like the Eng. roe. Fr., *roseau*, reed; o. Fr. and N. Fr., *ros*, *rosel;* Sw., *rôr;* Br., *raöz*, *raous*, reed. This creek is a station for certain *juncaceæ*, or rushes; hence probably the name. The phrase may also have a Kel. origin and signify "little pool."

40.—**Le grand havre.**—C.

41.—**L'Hopital.**—R.

42.—**Le devaloir.**—"Bec du Nez slip."

43.—**Bec du Nez.**—C. P. "The point of the nest." Br., *bec*, point; *nez*, nest; or possibly "the point of the coot" (sea bird); Br., *duannez*. Some suppose that *bec* here means "a stream." See 1,178.

44.—**Le Fourché** (or Fourqué).—R. The boats are fastened to this rock. Br., *fourchein*, to project.

45.—**La piatte.**—R. "The flat rock."

46.—**La grand paret.**—R. N. Fr., *paret*, a term applied to rocks accessible from land and proper for fishing with the rod.

47.—**La demie du Bec du Nez.**—Bec du Nez half tide rock.

48.—**La fosse à la trie.**

49.—**La Touaréhiaze.**—Cl. This cliff lies between Bec du Nez and Le pid du Mur. The word is Kel., meaning "dangerous ground," an appropriate term, as a large precipice is found there. Br., *doüar;* W., *daiar*, *daear*, ground; com. Ch., *daijar* = Lat., *arvum;* Br., *haise*, precipice.

50.—**Le pid du Mur.**—B.

51.—**Le Vaurouf.**—V. A name given to the valley above Le pid du Mur. A Kel. word meaning "the steep valley"; *vau*, valley; *rouf*, steep, rough.

52.—**La tête du pid du Mur.**

53.—**Les Havrets** (or Havrés).—A word to which different but appropriate meanings may be assigned. 1. Br., *havrec*, *awrec*, waste, uncultivated land. This part of the coast in former times may have been covered with ground. 2. W., *afreolaeth*, *afreolaidd*, *afreolus*, irregular, disorderly. The rocks are heaped up one on the other in disorder. 3. Ger., *haverirt*, sea damaged; com. Dan., *haveri*, damage a ship receives; Fr., *avarie*, damage in the conveyance of goods; Sp., *averia*; Port. and It., *avaria*, from Ar. *'awâr.*

The furze-brake above is called Feugrel, probably Fr., *fougeraie*, fern plot, or a Kel. term signifying "sonorous."

54.—**La Contre au Marchant.**—S. An expression of uncertain origin, perhaps meant for *contam marchant*, see 672. The spot lies off Divette. Marks: "Le Moulin des Monts" open north of Castle Cornet, and the "Vaurouf stream" in a line with "La tête du pid du Mur." Le Moulin des Monts no longer exists; its place is supplied by the Saumarez obelisk.

55.—**La graïne du Creux.**—S. A spot lying in the same neighbourhood. La Grune du Creux (56) is situated within it. Marks: The house situated on the top of the cliff, above "Le Pid du Mur" (50), formerly belonging to Martin Queripel, in a line with the point of land lying just below, and the house situated on Fort Joly in a line with the Terres Point (15).

56.—**La Grune du Creux.**—R. See 55.

57.—**Divette.**—B. Br., *diverein*, *divirein*, to flow; com. W., *dylifo*, to flow; *adlifo*, to flow again. An appropriate term. This inlet is surrounded by rocks, except at a certain spot or opening through which the sea flows in at high water. This interpretation is more correct than that which would derive the word from Br., *diveina*, to clear of stones. In the latter case, the opening would have been made by human hands, which is highly improbable. The coast from Bec du Nez to Divette abounds with "*inula crithmoides*" and "*eupatorium cannabium*."

58.—**Le puits de Divette.**

59.—**La tête de Divette.**

60.—**La Grune du Divette,** or La Grune du Bec du Nez, or La Gabrielle. } R. This rock is called Gabrielle by the inhabitants of St. Peter-Port, but the Bec du Nez fishermen give it the two former names. Marks for the rock: "La tête du pid du Mur" (52) in a line with a certain yellow spot on land, and the Saumarez obelisk open west of Castle Cornet.

61.—**Les Tierres.**—R. Possibly *tiernes*, a Kel. word meaning "chief rocks"; Br., *tiern*; Ir., *tiernigh*, chief.

62.—**Les Bas.**—R. Br., *bas*, low, but not deep; W., *bas*, shallow, flat, low. See 327.

63.—**Le Suffleur.**—R. Perhaps Fr., *siffleur*, whistler.

64.—**Les Emonts.**—Kel., "to frequent."

65.—**La Pid sous terre.**—C. Undoubtedly a corruption of Br., *pisocter*, "the place of witches."

66.—**La petite Tangüeuse.**—R. See 67.

67.—**La grande Tangüeuse.**—R. A Kel. word signifying either "covered with lichen" or "exposed to the sun." Marks for the rock: La roque au Piêgne (36) in a line with the battery in Fermain Bay, and "La Brebis" (68) in a line with a rock on land which seems to assume a round shape.

68.—**La Brebis,** or Le Mouton, or Le Lion. } R. The rock has three different names.

69.—**Le clos verrou.**—C. Kel., "herbaceous surrounding"; Br., *klos*, field: *gwer*, green. A Bec du Nez fisherman told me that he had seen the cuckoo in a crevice here before its appearance in the spring. This happened more than 40 years ago. On the 28th June, 1881, I saw the bird in this bay for the last time during that season. This may seem to favour the opinion of those who maintain that the cuckoo is not a migratory bird.

70.—**Les Grunettes.**—R. Dim. of *grune*. See 105.

71.—**Le Havre des Canons.**—B. A small battery lies above the bay from which the term *canons*, guns, is derived.

72.—**Le Ricardet.**—R. A word of Kel. origin, "small rock."

73.—**Marguérin.**—R. Another Kel. word, "wall formed like a rock"; Br., *moger;* W., *magwyr*, wall.

74.—**La pierre qui fend l'herbe.**—R.

75.—**Longue Pierre.**—R. See 157, 196.

76.—**Les Capiaux.**—S. A certain spot with sunken rocks. The word has probably a Kel. origin, signifying "rock or land projecting into the sea." Marks for the spot: "La tête de la Guérande" in a line with the base of the battery, and Longue Pierre (75) in a line with Castle Cornet.

77.—**Les Apôtres** (or Apautres).—S. Another sea spot. Mark: "La roque au piègne" (36) in a line with the square extremity of "La Ricou" (33). Cross mark: A line drawn between "La grand Paret du Havre de Vaubête" (87) and "La paret de la Guérande" (85).

78.—**Le grand Etocré.**—R. Kel., "confined, contracted." See 158. The Kel. root *kre* signifies "a rock," perhaps "flat rock between other rocks. Br., *et*, to throw back; *acre*, back, behind. See 1,011.

79.—**Les petits étocrieux.**—R. Dim. of *étocré* (78).

80.—**Milon.**—R. Kel., "home, haunt, resort"; Br., *mil.*

81.—**La boue du but de l'île.**—R. This rock is situated at St. Martin's Point. Br., *boue*, *boe*, hidden rock. See 12.

82.—**Les têtes du Grand Bouillon.**—R. See 83.

83.—**Le grand Bouillon.**—S. This spot lies about a mile off St. Martin's Point, and contains rocky heads always covered, "Les têtes du grand Bouillon" (82). The water is agitated here at all times, hence the term *bouillon*, from Fr., *bouillir;* o. Fr., *boillir*, to boil, agitate. Marks: Saints' Bay tower in a line with the outer extremity of "Le Tas de Pois" (111), and "Le Gros Ricardet" (72) in a line with Castle Cornet.

84.—**Blanché de la Guérande.**—R. *Blanché*. whitish (rock); *guérande*, either Fr., *garenne;* o. Fr., *garende*, *garande;* Du., *warande*, a rabbit warren, or a Kel. word signifying "fine, strong, divided portion." This latter term is appropriate. Br., *gair*, *ande.*

85.—**La paret de la Guérande.**—See 84.

86.—**Le Havre de Vaubête.**—B. A Kel. term, "The bay of the ancient valley," lit. of the valley that existed. *Bet* or *bezet*, past part. of Br. verb *beza*, to be; *vau*, valley.

87.—**La paret du Havre de Vaubête.**—See 46, 86.

88.—**La Rondette.**—R. Probably "the round rock."

89.—**Blanchet** (or Blanché) **du Sauchet** (or Sauché).—R. The cliffs above "Le Havre de Vaubête" (86) extending towards Jerbourg Point are called Sauché. *Sauchet*, perhaps *souchet*, Fr. han., a kind of grass used by fishermen; Br., *sau*, elevated; *blanché* means "white rock." See 84.

90.—**Le quai Jean Martin.**

91.—**Le Havre de l'Elin d'Colin.**—C. See 92.

92.—**L'Elin d'Colin.**—P. R. Kel. words, "messenger of danger"; Br., *el*, *ael*, messenger; Br., *coll*, destruction, danger; *colla*, *colli*, to destroy; W., *coll*, *colled*, loss, destruction; com. Ir., *calluint*, to spoil, corrupt.

93.—**Les dents.**—R.

94.—**La Fourquie** (or Fourchie).—R. "Forked rock." Br., *forc'h;* W., *ffwrch*, fork; Lat., *furca;* Fr., *fourche;* It., *forcone;* com. Heb., *pharac*, to divide.

95.—**Buné** (or Bunel).—R. Kel., "rock of velocity." Bunel is a rock near St. Malo. Perhaps "round end of rock." *Bu*, end; *el*, round.

96.—**La falaise à counins.**—*Counin*, probably a rabbit; o. Fr., *konikle;* Br., *konikl*, *kounikl*, *konifl*, *cwning;* W., *cwningen;* Ir., *conninc;* Sp., *conejo;* It., *coniglio*, from Lat. *cuniculus;* Gr., *koniklos;* Ger., *kaninchen;* Eng.,

coney, rabbit. Rabbit warren or cliff. On the other hand the word may be der. from Br., *coun, cwn;* W., *cwn*, a dog.

97.—**La grande Porte.**—C.

98.—**La noire.**—R. "The black rock."

99.—**La platte boue.**—R. "The flat sunken rock." See 12.

100.—**Blanché des Moies** (or Mouées).—R. See 84. *Moie, mouée*, a mass, heap; a term applied to some cliffs and rocks projecting into the sea. The furze-brakes above are called Moies. Other neighbouring furze-brakes are called "La Rocaze" and "Le Cocquerel." *Rocaze*, rocky; *coquerel*, hollow.

101.—**Le Havre du Picouais.**—C. See 102.

102.—**Le Picouais.**—R. Br., *pic, pik*, a point; pl., *picou, pikou*. The expression signifies lit. "these are the points." W., *pig*, point.

103.—**Bainchu.**—R. Kel., "opposed to the other; Br., *banc'hou*.

104.—**Le Moulinet.**—R. See 6.

105.—**Les Grunes.**—R. This word means "rocky bottom." Br., *grouanenn, groancnn;* pl., *grouan, groan*, gravel; W., *gro;* pl., *gröyn*, pebbles; Ic., *grun;* Dan., *grund;* Eng., *aground;* N. Fr. of the Val de Saire, *groué*, gravel.

106.—**La Grune au Rouge.**—R.

107.—**Le rouge Aiguillon.**—R. *Aiguillon*, a name given to many rocks tapering in a point. See 29. Provç., *agulha;* It., *aguglia*.

108.—**L'Aiguillon d'Anderlou.**—R. Otherwise spelt *andrio* and *anderlo*, in which case the word means "the good man." The rock has the appearance of being surmounted by a man. Br., *andrio*, the druid. If we take *anderlou* as being correct, the phrase means "the pointed rock situated between two places." This term is appropriate.

109.—**Le petit Aiguillon.**—R. See 29, 107.

110.—**Le gros Aiguillon.**—R.

111.—**Le Tas de Pois.**—R. Sometimes called "Le Tas de Pois d'Amont" to distinguish it from "Le Tas de Pois d'Aval" (322), near Gull Cliff. Another form of "Le Tas"=l'Etac, l'Etacq, *e.g.*, l'Etac de Sercq (1,057), l'Etacq of St. Ouen's, Jersey, Etacré, &c. The full form = Estac or Estacq. A name given to rocks having a pyramidal form W., *tas*, a stack, rick; Br., *dastum, tastum*, a heap, mass.

Prov.—La maïr qui roule au Tas de Pois, c'hest comme qui verrait iaue quée.

Trans.—When the sea rolls at "Le Tas de Pois," rain may be expected.

112.—**Les cochons du Tas de Pois.**—R.

113.—**Le rué du Tas de Pois.** "The stream or russel of 'Le Tas de Pois.'" *Rué*, N. Fr. for Fr. *ruisseau;* o. Fr., *ruau, rué*, stream. Mark for the stream: The wall that separates the Vallon grounds from the neighbouring furze-brake in a line with the outer end of "Le Tas de Pois."

114.—**Les grands Ligants.**—S. This spot is situated about half a mile beyond "Le Tas de Pois." Marks: "Le Havre des Vallets" (141) in a line with "Le Tas de Pois," and Brehon in a line with "Longue Pierre" (75). Br., *lig*, roaring; *liocan*, the name of a roadstead near Brest. If *ligant* = *liocan*, it means probably "white or bright colour."

115.—**Les Rbaymonts** (or Rbémonts).—S. This spot lies between "Les grands Ligants" and "Les petits Ligants." Marks: Saints' Bay Tower in a line with "Le Tas de Pois," and Brehon in a line with St. Martin's Point. The signification of the word is uncertain. I find, however, in the Br. dictionary, *re*, too, too much; *bec'h*, voyage; *mont*, to go.

116.—**Les petits Ligants.**—S. See 114. Marks: "Le Havre des Vallets" (141) in a line with "Le Tas de Pois," and Brehon in a line with St. Martin's Point.

117.—**La Draingue.**—S. Marks: Le vier Port (Moulin Huet) in a line with the outer end of "Le Tas de Pois," and Longue Pierre (75) between "La grande Fauconnière" and Jethou.

118.—**Le Sanglier.**—R.

119.—**La Fourquie des Moies.**—R. See 94.

120.—**Le Havre des Moies.**—B. See 100.

121.—**La petite Moie** (or Emouée).—R. *Emouée*, "the hidden one."

122.—**Les pertus.**—A name given to cavities in rocks accessible only at low spring tides. They are called *houlles* in the northern parishes.

123.—**L'Aiguillon de la petite Porte.**—R. See 29.

124.—**La demie de la petite Porte.**—R. See 47.

125.—**La petite Porte.**—B. A well-known cove noted for sand-eels.

126.—**Le mauvais d'valeux.**—Cl. "The difficult descent." The cliff is nearly vertical, but it is possible, though difficult, to follow a certain path which will enable the pedestrian to reach the bay. An easier path exists on the Mount Durand side. Above are still seen the foundations of the old Jerbourg Castle. The furze-brake above is called *orailles*, lit. bump, hence "small hillock."

127.—**Sous les pointes.**—C.

128.—**Sous la mine.**—C. Mines were formerly worked in this locality.

129.—**Le bec à la pie.**

130.—**Le Mont Durand.**—So called from the village above.

131.—**La mare à vrats.**—"Rock-fish pool." N. Fr., *vrat*, rock-fish.

132.—**La longue pointe.**—P. See 157.

133.—**Le vier Port** / **Moulin Huet.** } B. "Le vier Port is a very ancient name given to Moulin Huet. *Huet* or *huel* is Kel., elevated.

134.—**Le bateau à la garce.**—R. A party of young ladies were once surrounded by the tide on this rock, hence the name.

135.—**La pierre au dravan.**—R. Different meanings may be assigned to the word *dravan*. 1. Br., *drahen*, *drean*, fish bone or skeleton of a fish. 2.—Br., *drahen*, also *dravank*; Ir., *draighean*; o. Fr., *traban*, a ray with thorny back. 3. The expression may signify "rock of the plain. Br., *draven*, plain.

136.—**La Surtaut.**—R. Kel., lit. on the head, front, summit.

137.—**Sous les cotils Dan De Mouilpied.**—So called from a former proprietor of a furze-brake above the cliff.

138.—**Le bon Herbé.**—R. *Herbé* means bitter; *herbec'h*, shelter.

139.—**La pierre au lice.**—R. Probably intended for *liss*, a Kel. word meaning "slippery."

140.—**La Moulière.**—R. Der. from Fr., *moule*, mussel. This bivalve is found on the rock.

141.—**Le Havre des Vallets** (1).—B. / **La verte falaise** (2).—Cl. } 1. The name of the creek. 2. The name of the cliff. "Bay of valleys." *Vallet*, dim. of *val* = *vau*, a valley. "La verte falaise," so called because the hill is always covered with verdure.

141a.—**La fosse de Bon Port.**

142.—**Le Meulon.**—R. Kel., "praised or recommended rock"; Br., *meuli*; W., *moli*, to praise.

143.—**La Meulette.**—R. See 142.

144.—**La vallette à g'rsille.**—V.

145.—**Le grand coti.**—Cl.

146.—**La vallette à l'épine.**—V.

147.—**Le bec au muisson.**—R. P. This rock is surmounted by an aperture.

148.—**Les Giffrets.**—C. Kel., "joyous place."

149.—**L'Hopital.**—R.

150.—**Le Havre de Saint.**—B. "Saints' Bay."

151.—**La roque du Port.**—R. This rock lies within the bay.

152.—**Les Haises.**—R. W, *hais*, what is full of points. The word may mean "rocks where sacrifices used to be offered"; Br., *haise*, precipice.

153.—**Le Canuet.**—Cl. Kel., "the place of combat," or "the place of songs."

154.—**La petite Elingle.**—*R.* Kel., (1) caution; (2) arm's length, cubit, rock formed like the elbow; Br., *elin*, *ilin*, elbow; W., *elin*, angle, elbow; Ir., *illigh*, elbow; com. Gr., *klino;* Lat., *inclino.*

155.—**La grande Elingle.**—R. See 154 These two rocks lie within "Le Canuet."

156.—**La boue du Banquet.**—R. *Banquet*, a word of Kel. origin = rest.

157.—**La longue pointe,** or La pointe de la longue. } P. *Longue*, a Kel. word signifying "to engulph"; Br., *lonca;* W., *llwngc*, to engulph, absorb; com. Heb., *lua*, to swallow; Ir., *sloggigh.* It must be noted, too, that the W. word *llong*, and the Ir. word *louing*, mean "a ship." The keel of a ship is immersed in the water, and this point of land slopes down gradually until it is ingulfed in the water.

158.—**L'Etocré.**—R. According to others *l'Etacré. Etacré* may signify "strong stack or heap"; Br., *kré*, *cré*, strong, also rock; *tas*, heap. On the other hand, *étacré*, to loosen, slacken; *étocré*, to confine, compress.

159.—**Le petit Etocré.** Les petits étocrieux. } R. See 78, 79, 158. *Etocrieux*, pl. of *étocré.*

160.—**Le Picouais.**—R. See 102.

161.—**Les Terpi.**—R. Br., *terpi*, limit; W., *terfyn*, limit.

162.—**La Sévée.**—B. "Elevation, station, harbour." Br., *saw*, *sao*, elevation, station; *sevell*, to elevate, raise; Heb., *sa*, elevation.

163.—**La Carrée.**—R. Kel., generally "a rock at sea"; Br., *karrek*, rock washed by the sea or contiguous to the sea; com. W., *carreg*, stone.

164.—**Le Macherio d'Amont.**—R. Br., *mac'ha*, to press, shatter, smash, crush, overwhelm. A word allied to the Heb., *mahha*, to strike, and *mahahh*, to do away with, cause the loss of; com. Fr., *mâcher;* Sp., *majar.* Undoubtedly "dangerous rock," or perhaps "chief rock." See 273.

165.—**La Pêqueresse.**—R. Supposed by many to signify "a place convenient for fishing," from N. Fr., *pêquer;* Fr., *pêcher*, to fish. The word, however, may be Kel., meaning "attached, united." See 547, 748, 1,152.

166.—**Le Homet** (Houmet).—R. N. Fr., *houmet*, rock; Sw., *holm*, islet. See note on Castle Cornet (1).

167.—**La Chantres.**—R. "Rest." Br., *chan*, *échan*, *achan*, rest.

168.—**Le Macherio d'Aval.**—R. See 164. *Aval*, lower; *amont*, higher. The latter word is Kel.

169.—**Les pierres d'Icart.**—R. Br., *cart*, protection; lit., "its protection." See 1,032.

170.—**Le château d'Icart.**—See 169.

171.—**Le Havre de la Gallie.**—C. The Kel. root *gal* means "powerful, hardened."

172.—**La Sout'ile.**—R. Br., *suta*, *sutal*, to whistle; *sutell*, whistle.

173.—**La noire.**—R.

174.—**Rousse.**—R. Br., *ruz;* It., *rosso*, red; W., *rhudd*, red.

175.—**Le Creux au Chien.**—C.

176.—**La grande Baleine.**—R. So called from its shape.

177.—**La petite Baleine.**—R. See 176.

178.—**Le Têtard de la Bette.**—R. Perhaps Fr. *têtard*, head. summit. See 179. The word may be Kel., signifying "to remain short"; Br., *tetardet*.

179.—**La Bette.**—C. Kel., "abandoned, forsaken place."

180.—**Le Géhannet.**—B. Also spelt Jaonnet. See 17.

181.—**La petite Silleresse.**—R. O. Fr., *siller;* Nor., *sîla*, to cut in two. Hence Fr. *sillage*, the track of a vessel.

182.—**La grande Silleresse.**—R. See 181.

183.—**L'Huitrière.**—R. "Oyster rock."

184.—**Les ruaux Rollins.**—*Ruaux*, pl. of *rué*. See 113. Br., *rolla;* Ger., *rollen*, to bend, turn round.

185.—**Le Havre de la Fosse.**—C.

186.—**Le Perron.**—R. A Kel. word, lit. "I am a rock."

187.—**La grande Ruette.**—C.

188.—**Les grosses roches.**—R.

189.—**Les roques du Port.**—R.

190.—**La petite roque du Port.**—R.

191.—**La Fourquie** (or Fourchie) **de Petit Bot.** **La Grune Martin.** } R. See 94, 105. Br., *forc'hell*, forked; W., *ffwrch*.

192.—**Petit Bot.**—B. "Small bay." This cove divides St. Martin's parish from the Forest.

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193.—**Le creux Picot.**—C. 1. N. Fr., *picot*, a net located in a certain spot for fishing. 2. *Picot*, a Kel. term, "surrounded by points." This term is appropriate.

194.—**La pointe des Boufferesses.**—P. Fr., *bouffer*, to swell out, project.

195.—**Le Portelet.**—B. Dim. of Fr. *port*, bay, inlet.

196.—**Longue Pierre.**—R. Perhaps not necessarily "long rock." For the meaning of *longue*, see 157.

197.—**Blanche Poire.**—R. Possibly "white rock." *Poire = pierre.*

198.—**Le menage au Vée.**—R. The phrase will bear the meaning of "rock or refuge of the fairy." Br., *menec'hi*, refuge; *minic'hi*, refuge; also a very steep rock used as such.

199.—**Le Corvalet.**—Kel., "hard body or substance."

200.—**La grande Equervelle.**—R. Kel., "round rock." The term *velle* or *belle* signifies a round ball; *equer*, rock. See further 1,011.

201.—**La petite Equervelle.**—R. See 200.

202.—**L'Eventard.**—R. Br., *evn*, a bird; *tard*, bold, daring; *evneta*, to chase birds. Another meaning is possible. Br., *even*, disposition; *tard*, bold, daring.

203.—**Les chevaux de la Moye** (or Moie).—R.

204.—**Le Havre de la Moye.**—C. *Moie*, *moye*, a term applied to certain rocks or headlands slightly covered with earth.

205.—**Les fosses de Bretagne.**—Br., *brêta*, to break, crush; W., *briwo*, to break, crumble; Ir., *brw*, to crush.

206.—**La Tonnellerie.**—Br., *tonn*, a kind of wrack washed ashore by the sea; Br., *tonn*, *twnn*, a wave of the sea; W., *ton*, a wave, breaker.

207.—**Le creux à gravier.**

208.—**Le noir Groignet.**—R. 1. Br., *groun*, *grounn*, mass, heap; *gronnein*, to heap. 2. A place where the sea foams or roars; Br., *croignet*, foam.

209.—**Le rouge Groignet.**—R. See 208.

210.—**Le vier poulain.**—R. *Poulain*, may not be a Fr. word. Br., *poull*, cavity, depth; W., *pwil*, cavity; Ir., *pouil*, cavity; *yun*, *poulligh*, to hollow; Br., *can*, glistening. The expression might be a corruption of *poull can*. I do not insist on the latter meaning, but simply suggest it.

211.—**Le Tas de Pois.**—R. See 111.

212.—**Le Fourqué.**—R. See 191.

213.—**Le creux de la Moye.**

214.—**La Moye,** or La pointe de la Forêt. } P. See 204.

215.—**La roque taureau.**—R. Possibly the rock that breaks or crushes. Br., *torr*, to break; W., *tori*, to break.

216.—**La boue au Logger.**—R. Br., *log*, *lok*, habitation, corner; com. W., *lloc*, mound; *llogawd*, space parted off; *llogell*, partition.

217.—**Le rueau es port.**

218.—**La carrière Colin.**—See 92.

219.—**La boue blic.**—R. Kel., "bent or inclining rock"; Br., *blec*, *plec*; W., *plyg*, bent; Br., *plega*; W., *plygu*, to bend; com. Heb., *palac*, pliable, Gr., *pleko*; Lat., *plicare*; It., *piegare*.

220.—**La Conchée.**—R. See 1,022. Several rocks in the vicinity of St. Malo bear this name.

221.—**Le cheval.**—R.

222.—**Rousse.**—R. See 174.

223.—**Le Péron.**—R. See 186.

224.—**L'Etoqué l'herbeuse.**—R. The expression may well signify "the green hat" or "refuge." Br., *toc*, *toque*, hat, refuge; Sp., *toca*, head covering; *tocar*, to cover the head; l. Lat., *tucus*, hood; Br., *herv*, green.

225.—**La grande Herbeuse.**—R. *Herbeuse* means "bitter."

226.—**La petite Herbeuse.**—R. See 225.

227.—**Le fond du Gouffre.**

228.—**Le Théhun.**—R. Br., *sel*, *thel*, view; *eun*, *eunn*, straight; W., *sel*, distant view; Br., *aoun*, fear, terror; *eün*, fear; com. W., *ofn*, dread, timidity; Heb., *aman*, omen, truth. The word may mean "let us take care."

229.—**Le galet de la Gllie** (or Glie).—Kel., "the beach of the mount"; Br., *gle*, *gli*, mountain.

230.—**L'Enclume.**—R. Undoubtedly a word of Kel. origin. 1. W., *lynclyn*, vortex, gulf. 2. *Llychlyn*, mire of pools or stagnant water. See 538.

231.—**Les Brachets.**—R. "Double rocks." Br., *brechet*, having two arms. See 1,110.

232.—**La boue Miégué,** or Miéqué. } R. Possibly having the same derivation as 240. Br., *gué*, however = friend.

233.—**Le fond du Val.**

234.—**Les demies des Camps Rôts.**—R.

235.—**Les Camps Rôts.**—R. Possibly Kel. terms. 1. Br., *cam*, *camm*; W., *cam*, crooked. 2. Br., *cân*, stream or current of water.

236.—**Le tard Câtel.**—R. *Tard* may be a corruption of *taro*. Br., *taro ;* W., *tarw ;* Gr., *tauros ;* Ch., *tur ;* Lat., *taurus*, a bull ; Br., *kastell ;* W., *castell*, castle. In this case, "the bull of the castle." *Tard* may mean "near"; near the castle.

237.—**Le dret Câtel.**—R. See 236. 1. *Dret* means "behind," also "starling"; behind the castle. 2. The expression can well bear the meaning of "the castle of the starling."

238.—**Le Sandon.**—Deep sand. Br., *sand*, sand ; *don*, deep.

239.—**Les trois pieds.**

240.—**La boue Amercée.**—R. "It is the mark, point, or end." Br., *merk*, *merc*, limit ; W., *marc*, impression ; Heb., *marak*, to make a mark.

241.—**La Carcotière.**—R. Br., *carg*, *cark*, burden, load ; *carr*, chariot. "The chariot of the man," or "the burden of the house."

242.—**Le Moulron.**—R. Kel., "round rock."

243.—**Le Mouillier** (or Mouliet).—R. Kel., "bird rock," *i.e.*, "frequented by sea birds"; Br., *moul*, bed ; *iar*, *yar*, pl., *ier*, *yer*. bird ; W., *iâr*, bird, hen.

244.—**Le Château de la Corbière.**—See 245.

245.—**La Corbière.**—P. Supposed by many to mean "the haunt of the sea raven," from Fr. *corbeau*. The word may, however, be Kel., signifying "projecting point of the sea-bird"; Br., *corf ;* W., *corf ;* Ir., *corp*, body ; com. Heb., *kereb*, belly ; Br., *iar*, bird.

246.—**La boue de Pierre Guille.**—R. Guille is a family name in the Forest parish. Rocks that bear family names often relate to the discoverer.

247.—**L'Etoqué à cormorans du Bon Repos,** also called simply l'Etoqué. } R. *Etoque* is Kel., meaning "refuge." See 224.

248.—**Le rocher à cormorans** (du Bon Repos).—R. "Haunt of the cormorant."

249.—**Bon Repos.**—B. This bay separates the Forest from St. Peter-in-the-Wood.

ST. PETER-IN-THE-WOOD.

250.—**Le Vaudeli.**—V. Kel., "the valley of the passer-by," the frequented valley ; Br., *dele*, frequented.

251.—**Les sept Boues.**—R.

252.—**La petite Lieuse.**—R. The Kel. root *li* signifies "united."

253.—**Le kavelot** (or kiavelot) **de la Lieuse.**—R. Perhaps der. from Br., *kavell*, a fisherman's bow-net ; com. W., *cawell*, cradle.

254.—**La grande Lieuse.**—R. See 252.

255.—**Le bleu rocher.**—R. "The blue rock."

256.—**Le cheval.**—R.

257.—**La Haise.**—R. See 152.

258.—**Le rocher Collas Rose.**—R.

259.—**Les Corbinez.**—Cl. Kel., "elevation."

260.—**La vallée à counie.**—V. Perhaps der. from Br., *coun*, a dog. See, however, 96.

261.—**Le rocher Brown de dehors.**—R. See 246.

262.—**Le rocher Brown de dedans.**—R.

263.—**La Cheminée,** No. 1.—R.

264.—**Le rocher à cormorans.**—R.

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265.—**La chambre à pigeons.**—Cl.

266.—**Le pot de vin.**—R. *De vin* might be a corruption of Br., *devi*, to burn. See 1,136.

267.—**Toulette.**—R. 1. Br., *toull*, hollow; *toulla*, to hollow, perforate; W., *tyllog*, perforated; *tyllu*, to bore, pierce; *twl*, cavity. In this case "perforated, cavernous rock." 2. Br., *toul*, dog-fish; Fr., *roussette*. It is worthy of observation that a neighbouring rock (269) bears the latter name.

268.—**Les Ecrilleurs.**—Br., *gril*, obstacle; *ek*, point; *grilia*, to shatter.

269.—**La Roussette.**—R. See 267.

270.—**La Jument.**—R. A vessel having a mare on board was wrecked in this locality; the rock was by mistake taken for the mare swimming in the water.

271.—**La roque du Coin.**—R.

272.—**La platte boue.**—R. See 99.

273.—**Le creux Mahié** (or Mahiel).—"The flattened cavern," or "the cavern of the chief." Br., *maher*, chief; *mahé*, Matthew; *mahé*, flat.

274.—**Le Vaumenquin.**—V. "The valley of the white rock." *Vau*, valley; *men*, rock; *kann*, white.

275.—**Le Tas Lungué**, or Talangué, or Talanguet. } R. "It is the side of the passage." Br., *tâl*, face, front; *talog*, having a large front; Br., *ang'uet*, the ford, passage.

276.—**Les Thielles** (or Tielles).—R. Cl. With respect to the cliff, "acclivity." W., *tyle*, steep ascent; Ar., *tella*, to mount; com. Ger., *thal*, valley. With respect to the rocks, "united, connected rocks." Br., *ti*, *si*, *ell*; the latter word signifies "parts, members." *Statice limonium*, *inula crithmoides*, and *atriplex (obione) portulacordes* are found at the base of the cliff.

277.—**Les Caines** (or Kaines) **d'Amont.**—R. The word *caine* has three forms: *Caine*, *kaine* and *quaine*, *e.g.*, Rocquaine (476). O. Fr., *caine*; Br., *kein*, ledge, back.

278.—**La Cheminée**, No. 2.—R.

279.—**Le Fourqué.**—R. "Forked rock." Fr., *fourchu*. See 94, 191.

280.—**La boue du Fourqué.**—R.

281.—**L'Herbé.**—B. Br., *herberc'h*, shelter; com. Fr., *abri*.

282.—**Les Auquets.**—R. Kel., "rocks of troubled waters." The Kel. root *au*, water. The latter part of the word signifies "to move, trouble," also "to churn"; *loc'ha*, to move.

283.—**Les Messelles.**—R. "Mussel rocks." Br., *mescl*, mussel; Lat., *musculus*.

284.—**Les Bouffeures.**—R. Fr., *bouffer*; Provç. and Sp., *bufar*. The sea swells and breaks here heavily at high water.

285.—**La fosse Piquenot.**—C. Kel., "dangerous spot."

286.—**La chartée de cour.**—R.

287.—**L'Aiguillon.**—R.

288.—**Le noir rocher de la fosse Piquenot.**—R.

289.—**Le rouge rocher.**—R.

290.—**Le rueau de la tuaraie.**

291.—**Le col du long Cavaleux.**—P. W., *col*, peak, summit.

At this point the parish of St. Peter-in-the-Wood divides Torteval into two parts.

ST. PETER-IN-THE-WOOD.

292.—**Le long Cavaleux.**—C. "Long creek." Long Cavaleux is erroneously called "Confleurs" in the Trans. of the Society for 1895, p. 13. Cavaleux is evidently Kel. Br., *cava*, *cevedd*, *kevia*, hollow place, also to hollow; W., *eilfach*, bay, creek; Provç. and Sp., *cavar;* Lat. and It., *cavare*, to hollow; o. Eng., *cofa*, cove.

293.—**La touffe de saeus.**—A name given to the zigzag path leading down to "Le Long Cavaleux" and "La carrière Torode." *Saeus*, folds, windings.

294.—**La Venelle.**—R.

295.—**L'Equerseux.**—R. See 200. The root *ker*, *equer*, signifies rock; Br., *karza*, to clean, purify. "Rock that cleanses or purifies."

296.—**L'Equerbelle.**—R. See 200. *B* and *v* are interchanged in Br.

297.—**Le noir rocher du long devaloir,** or du long Cavaleux. } R.

298.—**L'Eglise.**—R.

299.—**Le Symptôme.**—R. 298 and 299 lie within "La Carrière Torode."

300.—**La carrière Torode.**—C. Undoubtedly an error for Br., *torrôd*, a precipice near the sea. An appropriate term. The word is der. from Br., *torr*, breaking, fracture; *torrein*, to break; W., *tor*, break, rupture; *tori*, fracture, cut.

301.—**La Caine d'Aval.**—R. See 277.

302.—**Le pourceau.**—R.

303.—**Le Dos d'âne.**—R. 302 and 303 form part of "La Caine d'Aval." Perhaps called "Dos d'âne" from its shape, or a Kel. term signifying "that which is joined or brought together." Both terms are applicable. Br., *dosta*, *dosda*.

304.—**Le dehors de la Caine.**—R.

305.—**La grande boue,** ou Boue de l'ouest. } R.

306.—**La boue de l'est.**—R.

307.—**La boue Philippe.**—R. Perhaps named after someone. Br., *filip*, sparrow.

308.—**La boue Baker.**—R.

309.—**La belle Elizabeth.**—C. I have been unable to trace the meaning of this expression. Br., *iselbet*, low part of the world. Perhaps "fine bay, but lying rather low." The expression is undoubtedly corrupt. W., *isel*, low.

310.—**Le rocher Pêtis.**—R. Br., *pêt*, how much, how far; *is*, deep. The Br. word *pêtis*, however, is the name of a small sand worm used as bait. Br., *fêtis* = *pêtis*, thick, massive, compact.

311.—**Les Crêtes.**—Perhaps der. from Br., *crec'h*, elevation.

312.—**Le Catehuc** (or Catelhue).—Possibly "elevated castle." Br., *castell;* W., *castell*, castle; com. Lat., *castellum;* Br., *uc'hel;* W., *uchell*, elevated; com. Gr., *ogkos*, mass, pile; Ger., *hügel*, hill, elevation.

313.—**La shoppe.**—R. There might be some connection between this word and the Br., *schilpion*, sea swallow.

314.—**La Moulière.**—R. See 140.

315.—**La baie de la Forge.**—B. Perhaps der. from Br., *forc'h*, fork; *forc'hein*.

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316.—**La Congrelle.**—C. Possibly "conger-eel spot." Fr., *congre;* Sp., *congrio;* Lat., *conger;* Gr., *goggros*, a conger-eel.

317.—**La platte roque.**—P.

318.—**La pointe du Querqueux.**—P. This name appears in Gardner's Map of Guernsey, published in 1787 (Guille-Allès Library). The meaning seems to be "effaced, obliterated," or perhaps "hidden, isolated."

319.—**Le devaloir aux vaches,** or aux vieux chevaux. } C. Old horses and cows were formerly thrown into this creek; hence the name. Br., *devalenn*, valley.

320.—**Le rocher es Maux.**—R. *Maux*, no doubt = *mauves*, sea gulls.

321.—**La demie du Tas.**—R. The half-tide rock of "Le Tas de Pois d'Aval."

322.—**Le Tas de Pois d'Aval.**—R. See 111.

323.—**La petite Ancre.**—B.

324.—**Le col de la lambille.**—P. "The projecting point." Br., *lam*, to ascend; *bil*, point; com. W., *llam*, to skip, jump; Ir., *leim*, jump.

325.—**La grande Ancre.**—B. 323, 324, 325 form the well-known Gull cliff.

326.—**Le rocher au Gal.**—R. P. *Gal*, strong, a Kel. term; com. W., *gallad*, being able.

327.—**La Bazière** (or Baissière).—R. Br., *bâs*, low, but not deep; *basse*, a sunken rock; W., *bas*, shallow; Eng., *base;* It., *basso;* Sp., *baxo;* l. Lat., *bassus*.

328.—**Le petit Herpin.**—R. "Its head." Br., *er*, *penn*.

329.—**Le gros Herpin.**—R. See 328.

330.—**La Cuve.**

331.—**Le creux du Jou.**—Kel., "the cavity surrounded with dangers," or "the roaring cavern"; Br., *ieu*, *jeu*, "danger." *Du you*, "that makes a noise."

332.—**La pointe de Pleinmont.**—P. *Pleinmont*, "a bluff headland."

333.—**La rué des plains.**

334.—**La parfonde pointe.**—P. The word "parfonde" seems to mean "like, similar."

335.—**La barque à froment.**—Br., *fromm*, roaring; com. W., *ffromi*, to grow angry.

336.—**La Mouette.**—P.

337.—**Le Creux.**

338.—**La Plaquière.**—See 806.

339.—**Le petit Charpentier.**—R.

340.—**Le gros Charpentier.**—R.

341.—**Les Vaux Epines.**—*Vaux*, pl. of o. Fr., *val*, a valley.

342.—**La tête du Puits.**—R.

343.—**Les Catières** (or Caquières).—P. "The seats or chairs." See 584.

344.—**Les boues Arse.**—R. Possibly intended for *harse;* Br., *hars*, obstacle, resistance, defence. "Rocks of defence."

345.—**Le cheval de la Haise.**—R. See 152.

346.—**Les boues à vrats.**—R. See 131.

347.—**Roustel.**—R. Br., *reustl*, *roüestl*, *roüest*, disorder, confusion; *roüestet*, confused; W., *rhwystri*, hindrance, barrier, obstruction; *rhwystro*, to hinder, obstruct.

348.—**La Jument.**—R.

349.—**La Rousette.**—R. See 267, 269.

350.—**La grosse Roque.**—R.

351.—**La mare de la grosse Roque.**

352.—**Les grandes Portes.**—B.

353.—**Corbet.**—R. W., *corbel*, jutting out; Br., *corf*, body, substance. "Rock that can be perceived," or "that is seen partly difformed."

354.—**Les trois tries.**—R.

355.—**L'Aiguillon des Portes.**—R. See 29.

356.—**Les petites Portes.**—B.

357.—**Le Rouête.**—R. Br., *roüet*, no doubt allied to Heb., *rescheth*, fisherman's net.

358.—**L'Arteurre du Sud.**—R. Erroneously called "La Tour" in the Map of the Channel Islands pub. for the Admiralty. See Map, "Hall of the Guille-Allès Library." The meaning is "Strong or firm south rock." *Arteurre* = no doubt *harteurre*. Br., *hart*, *hart*, strong, solid; Ger., *hart*; com. W., *hwrdd*, push, thrust, and *aruthr*, marvellous, wonderful.

359.—**L'Arteurre du Nord.**—R. "Strong, firm north rock." See 358.

360.—**Le rocher d'Auté.**—R. Called "The Compass rock." *Auté* is Kel., and the expression means "the rock of the great wind." *Aut*, ancient Kel. word signifying wind, whence Fr., *autan*; *e* connecting particle = is (strong).

361.—**La boue Jean.**—R. "Roaring, whistling, noisy rock," perhaps "foaming rock." Br., *ivon*, *ion*, *eon*, foam.

362.—**La tête Liannard.**—R. "The top of the covered rock." Br., *liana*, to cover, bury.

363.—**La fosse au Moigne.**—B. Possibly Kel., der. from Br., *moanaa*, to make smaller or narrower; *mîn*, a point.

364.—**Les vieilles mares.**

365.—**Les Pêtis.**—C. See 310.

366.—**Le rué rose.**

367.—**L'Anouné.**—R. Br., *annâoun*, the phantom.

368.—**Les Pézéries.**—B. Br., *vezeries*, spot of expiation, martyrdom; *pez*, piece; *pezerek*, large rock. The latter term seems to be appropriate.

369.—**La fosse au larron.**—B.

370.—**Le Silleresse de la Varde.**—R. P. See 181. The term *varde* is applied to certain eminences. Dan., *varde*, a watch-tower; *silleresse* may signify "the dripping rock." Br., *sizla*, *sîla*, to flow. However, Br., *silh*, rock; Heb., *selâ*; San., *çilâ*, rock, com. Lat., *silex*; Ir., *sil*, to drop, shed; Br, *silher*, rock where the wind blows with force.

371.—**L'Aiguillon du Port.**—R. See 29.

372.—**La père au Saux.**—R. The Kel. root *per*, *pere*, signifies a rock, *e.g.*, *peron*, *perelle*; Br., *saux*, *saös*, *saoz*, *säus*, the Saxons; English, "the rock of the Saxons."

373.—**Le rocher Nicolas Gallienne.**—R.

374.—**Le Houmet du Port.**—R.

375.—**Le Houmet du milieu.**—R. N. Fr., *houmet*, rock. See 1.

376.—**Le long Houmet.**—R.

377.—**Les Houmets Baises,** or es baises. } R.

378.—**L'Angrouté.**—R. "The hollow rock." Br., *angevu*, hollow.

379.—**Le Portelet.**—B. Dim. of Fr., *port*. "Little harbour."

380.—**La petite baie.**—C.

381.—**Le rocher Mourant.**—R.

382.—**Le Kiavelot.**—R. See 253. W., *caffell*, grasper.

383.—**La Petite Kiavelière.**—R. Perhaps "exposed to the wind." Br., *avele.*

384.—**La grosse Kiavelière.**—R.

385.—**La Lague.**—B. Kel., "partly surrounded by water," or lake, marsh. Br., *lagen, lagaden,* pond, marsh, lake; W., *llygad, llwg,* lake; Ir., *laghach,* mire.

The next rock in order is "Le rocher Caunaf" (473), but as it is situated in the parish of St. Peter-in-the-Wood, we now return to the Hanois group, off the coast of Torteval.

386.—**La boue du rué du Banquet.**—R. See 156.

387.—**La boue à vrats.**—R. See 131.

388.—**La Crolpette.**—R. "The rounded rock." Br., *crol, croq, crocq.*

389.—**La Haise.**—R. See 152.

390.—**Les Perchies.**—R. "Pointed." Br., *perc'h,* point.

391.—**La piatte.**—R. "The flat rock."

392.—**Le rond Roquier.**—R.

393.—**La père énoui.**—R. See 372. "The opposite or distant rock"; perhaps more lit. "the rock over there." Br., *eno,* "over there."

394.—**La boue de Jean Du Four.**—R.

395.—**La Maquerelle.**—R. Supposed by some to mean the mackerel rock. The word, however, may be Kel., signifying "the deceitful rock." See also 164. Br., *maquer.*

396.—**La boue de la Maquerelle.**—R. See 395.

397.—**La boue de la Jument.**—R.

398.—**La Jument.**—R.

399.—**Besains.**—R. A Kel. word. "The open rock" or "wrack growing under the water." *Bez,* mouth; *bezin,* wrack.

400.—**La père à la Sarde.**—R. See 372. *Sarde* = bream; *père,* rock.

401.—**Le petit Hanois.**—R. The Hanois rocks are notably dangerous. The word is Kel., meaning lit. "agony."

402.—**Le gros Hanois.**—R. See 401.

403.—**La boue biné.**—R. Br., *binein,* to cut, hew stones.

404.—**La Carlieuse.**—R. *Car* means a rock, and *li,* united. Probably "rock joined to other rocks."

405.—**Les oreilles.**—R. Perhaps *orailles,* a mound.

406.—**Le haut Aiguillon.**—R. See 29.

407.—**La boue ron.**—R. "The round sunken rock."

408.—**La Deinresse.**—R. Pr., *daneress.* N. Fr., *dranet, drège,* net.

409.—**La renouvette.**—R.

410.—**Frosland.**—R.

411.—**Le Péron.**—R. See 186.

412.—**L'Aiguillon.**—R. See 29.

413.—**Grivo.**—R. "Sharp pointed." Br., *gribo,* pointed. Br., *kribenn, kribell;* W., *cribyn, crib,* crest, summit.

414.—**La boue du moulin à la grosse Roque.**—R.

415.—**La grande boue de Bisé.**—R. See 418.

416.—**La boue à chats.**—R.

417.—**Le piqueret** (or picqueret) **de Bisé.**—R. "The pointed rock belonging to Bisé." See 418.

418.—**Bisé.**—R. The Hanois lighthouse is situated on this rock. The word seems to signify "two united (rocks)."

419.—**La boue du sec pois.**—R.

420.—**Le ramendeux.**—R.

421.—**Les jumelles.**—R.

422.—**La roque à la mauve.**—R. "Sea-gull rock."

423.—**La boue de l'Epec.**—R. See 425.

424.—**Le haut Epec.**—R.

425.—**L'Epec.**—R. Pr., *épé*. Lit., "its head."

426.—**Le Tortépec.**—R. Lit., "head broken on the way." Br., *torr*, to break; W., *tor*, break, rupture, cut.

427.—**Le Fourqui.**—R. See 94.

428.—**Les boues Robert.**—R.

429.—**La petite Fourquie.**—R. See 94.

430.—**La haute Fourquie.**—R.

431.—**Les Moines.**—R. Probably "the lesser rocks."

432.—**La grande I.**—R.

433.—**L'Atre.**—R. Br., *adre* = *atre*, behind.

434.—**Le four.**—R. "Hollow rock."

435.—**La boue Aufer.**—R.

436.—**La platte boue.**—R. See 99.

437.—**Le Hérouné.**—R.

438.—**La Hérounelle.**—R.

439.—**Le rondin.**—R. Dim. of *ronde*.

440.—**La Ronde.**—R. "The round rock" of the Hanois group.

441.—**La boue es bard.**—R. Perhaps der. from Br., *ebars*, within; *bert*, however, means short.

442.—**Les hérouniaux.**—R. "Lamentations."

443.—**Les boues de la Génouinne.**—R. See 445.

444.—**La grande boue de la Génouinne.**—R. See 445.

445.—**La Génouinne.**—R. 1. "The nipple rock." Lit., "the rock that appears or is seen." The point is always above water. Br., *genel*, to beget, appear; W., *genol*, relating to birth; *cenedlu*, to beget, generate; Lat., *gignere;* Gr., *gennân*. 2. Br., *genou*, mouth, opening; W., *geneu*, opening; San., *gan*, to be born.

446.—**Les Courtelines.**—R. "The place of men." Br., *goûr*; W., *gwr*, a man; com. Heb., *gever;* Lat., *vir;* Gothic, *wair;* An. Sax., *wer*.

447.—**Les Asselines.**—R.

448.—**La boue Féron.**—R. No doubt "the strong, hidden rock." W., *ffer*, strong.

449.—**Les chevaux de la trois Père.**—R. See 452.

450.—**La boue Pâté.**—R. Br., *pat*, *pad*, durability.

451.—**La Selle.**—R. "Visible." Br., *sell*, look, view; *sellein*, to look; W., *sel*, view.

452.—**Les trois Père.**—R. These three rocky heads, forming part of La Pendue (455), are always above water. See 372. "The three rocks."

453.—**La sec houille.**—R.

454.—**La mare à hérichons.**—"Sea-urchin pond." It is situated on La Pendue (455). See 34.

455.—**La Pendue.**—R. A large rock easily visible along the coast from Pleinmont to l'Erée. The meaning seems to be "black head or summit." Br. and W., *pen*, head; Br., *dua*, to blacken; *duet*, black; W., *du*, black; Ir., *du*, black.

456.—**La petite Becchue,** or (Becue). } R. Br., *bek*, *beg*, point, extremity.

457.—**La grande Becchue.**—R. See 456.

458.—**La boue à l'haim** / **La boue Aligné** } R. Possibly Kel., signifying "another hidden rock." Br., *all*, other, or a word connected with N. Fr., *aim*, *ain*; o. Fr., *haim*, *aim*; It., *amo*; Lat., *hamus*, fish-hook. The expression, however, seems obscure.

459.—**La haute Counière,** or Counilière. } R. 1. W., *cwn*, top, summit, elevation; *cwnad*, rising, elevation. 2. Br., *eoûn*; W., *cwn*, dog.

460.—**Gourban.**—R. Kel. W., *gwyr*, oblique, sloping; *ban*, peak; Br., *banna*, to rise.

461.—**Les boues Collas Simon.**—R.

462.—**La boue de Torteval.**—R. Torteval Church is used as a mark for this rock, hence the name.

463.—**La Homeline.**—R.

464.—**Les boues à chiens.**—R.

465.—**La Lieuse.**—R. See 252.

466.—**Les Tiaveres,** or Tiavernes. } R. *Tiaveres*, fairy's spot; *tiavernes*, house of the chief.

467.—**Bersemer** (or Bassemer).—R. "In the sea," or "appearing at low water."

468.—**Les Aiguillons des petites becchues.**—R. See 29, 456.

469.—**La noire roque.**—R.

470.—**Le banc de la noire roque.**—*Banc*, rest.

471.—**Le Péron.**—R. See 186.

472.—**La Fourquie.**—R. See 94, 191.

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473.—**Le rocher Caunaf** (or Conaf).—R. This rock is situated next to 385 along the shore. 1. This name is possibly very ancient. Heb. *kanaph*, a wing, fig. "point or border of land." The verb in the Nifal means "to surround with a rim," "to wind about." It has the same signification in Syr. and Ar. 2. On the other hand, Br. *konifl*, *koniffl*, *konifel*, young rabbit. 3. Br., *kon*, angle, also plain; *af*, low. See 96.

474.—**Le Crocq du Sud.**—*Crocq* may be traced to a Kel. origin. "Bent," "obstacle." It means too, "wild."

475.—**Le Chateau de Rocquaine.** / **Fort Grey.** } "Rocquaine Castle." "Grey Rock." See 476.

476.—**Rocquaine.**—B. "Ledge of rocks." This part of the coast is very rocky. See 277.

477.—**Les Brayes.**—R. Pr. by some *bras*; Br., *braz*, large. "Large rocks." W., *bras*, large. Br., *bray*, "two arms."

478.—**Le Grand Port.**—B. This forms part of Rocquaine Bay (476).

479.—**Les Gots** (or Gaux).—N. Fr., *gaux*, large rolled stones; pl. of *gal*; Heb., *gal*, a heap of stones.

480.—**La roque Poisson.**—R.

481.—**La grande Platière des Brayes.**—R. "The large flat rock of the Brayes." Br., *plat*; Fr., *plat*, flat; com. Gr., *plata*, a dish; Heb., *palat*, to stretch, widen, enlarge.

482.—**La petite Platière des Brayes.**—R.

483.—**Les boues Fourquies.**—R. See 94, 191.

484.—**Vauxlingues.**—R.

485.—**Le banc du Maraisquet.**—R. "Fishermen's rest."

486.—**La Moulière.**—R. Perhaps the same as 140.

487.—**Très boue.**—R. Br., *très*, dry. Possibly "rock that uncovers."

488.—**Coco.**—R. 1. Br.. *koch*, *kok*, red. 2. Br., *coch*, cavity; W., *cwch*, round concavity. I incline to the second meaning.

489.—**Fauxquère.**—R. Possibly "rock of the waters."

490.—**Tanqueots.**—R. Kel., "Exposed to the sun." Br., *tana*, to burn; W., *tân*, fire; Ir., *téné*, fire; com. Ch. and Syr. *tanan*, to smoke.

491.—**Boue des Lavouquere.**—R. Br., *querek*, rock; *avou*, water. "The current of the rock" or "the water rock." See also 489. Com. Avon, a river in England.

492.—**Boue Attrappée.**—R. Possibly "rock behind." Br., *atre*, behind.

493.—**Boue des Brayes.**—R. See 477.

494.—**Boue Gallienne.**—R. Gallienne, a family name. See 246. Br., *gallienne*, a bodkin.

495.—**Boue à sablon.**—R.

496.—**Boue à congre.**—R.

497.—**Boue Arche.**—R. Perhaps connected with Br., *hars*, *harz*, obstacle.

498.—**Boue au tonnerre.**—R. Possibly Kel. 1. Br., *tonn*, wave of the sea. 2. W., *twn*, fracture.

499.—**Boue de la Fourquie.**—R. See 94, 191.

500.—**Le plat Houmet.**—R. See 375.

501.—**La tête du blanc calme.**—R. Br., *blanc*, *blank*, weak, soft, pliable, circular; Gr., *blakeia*, slackness, sloth. Possibly "rock shaped like a half-moon." *Cal* signifies rock.

502.—**Les Aiguillons.**—R. See 29.

503.—**L'Aiguillon du Lit Herri.**—R. Two meanings are applicable. 1. Slippery. 2. Covered with wrack; W., *llethr*, slope, declivity; *llithrig*, sliding, slippery; Br., *litra*, *lintra*, to glow, to be slippery; *liti* = frequented.

504.—**Le rocher es piettes.**—R. See 21.

505.—**Le rocher au soldat.**—R.

506.—**Le rocher à Port.**—R.

507.—**La petite Cambrette.**—R. "The small resting place." Br., *kambr*, room, resting place.

508.—**La grande Cambrette.**—R. See 507.

509.—**La houle Jean De La Rue.**—R. N. Fr., *houle*, otherwise called *pertu*. See 122. Dan., *hul;* Du., *hol;* Sw., *hål;* Ger., *hœhle*, a hole.

510.—**La tête du Nord-Est.**—R.

511.—**La grosse Torquetil.**—R. Kel. Lit., "not very high." Br., *torgen*, elevated.

512.—**La petite Torquetil.**—R. See 511.

513.—**Les platons du Grand Port.**—R. *platons*, no doubt dim. of *plat*, flat. See 478.

514.—**La boue du Grand Port.**—R. See 478.

515.—**La Hautehatine.**—R. Kel. "The commencement or end of the rock." Br., *hattein*.

516.—**La roche Becquet.**—R. Br., *bek*, *bec*, *beg*, point, extremity; W., *bechyn*, little hook; Ir., *bek*, point.

517.—**Le rocher Corbin.**—R. "Corner broken off." Der. from Br. *corbiner*.

518.—**La carrière Pierre De Garis.**—R.

519.—**Les fours.**—R. "Hollow."

520.—**Le rocher Collas du Mont.**—R.

521.—**Le rocher du Ruet.**—R. Perhaps corrupted from *turia* = *duria*, rising ground, or *ruet* = perhaps *rué*, stream.

522.—**Les Pallaks.**—R. Kel. "Pieces, fragments." Br., *pellkas*, *pellcas*, remains of a vessel that has been wrecked; *pell*, far, *cass*, driven.

523.—**La grande boue de la Selle.**—R. See 451.

524.—**Bourbon.**—R. "The spot where the sea throws up mire."

525.—**Chauffinerie.**—R.

526.—**La Gravette.**—R.

527.—**Gravier.**—R.

528.—**Le noir rocher.**—R.

529.—**La tête des Normands.**—R. Br., *norman*, navigator.

530.—**Le rocher de la vieille rue.**—R.

531.—**L'Ectivain.**—R. Kel. "Hollow rock," "rocky house." Br., *entivain*.

532.—**Le Tuzet.**—R. Br., *tuzum*, compact, heavy, also blunt at the point; *teuzet*, open, split.

533.—**La boue du Tuzet.**—R. See 532.

534.—**La tête de la pièce Robert.**—R.

535.—**La tête du Coude.**—R.

536.—**La tête de la neuve pièce.**—R.

537.—**Lishroy** (or Lissroi).—R. Erroneously called "Ile Charles," Charles island. (Trans. of the Soc. for 1895, p. 49, and Admiralty map.) The pronunciation of Ile Charles and Lishroi being very much alike has been the cause of the error. The word is evidently Kel., signifying "accumulation of wrack and other marine substances. Br. dialect of Vannes, *roy*, *roi*, wrack; *liss*, slippery.

477-537 are situated in the neighbourhood of Rocquaine.

538.—**Lihou.**—I. Another Kel. word. "Accumulation of sea mud or mire." Br., *li*, *lec'hit*, *lehit*, *leit*, sea sediment; W., *llwch*, *llych*, dust; *llyn*, lake, pool. In W. Norway = *Llychlyn*, mud, mire of lakes or pools. A true characteristic of that country. Lihou might be derived from Br., *lydd*, *ligg*, near the water, or in the water. See 230.

539.—**Le nic au Corbin.**—P. The N.W. point of Lihou. Br., *nich*, *nic'h*, flight. In this case "the flight of the crow." See, however. 517. It is probable that the whole expression is Kel. "The point or part that is bent round.

540.—**Le col des Lihoumioux.**—P. Br., *col*, a point broken off or disappearing; W., *col*, peak; *lihoumioux*, pl. of *lihoumel*, dim. of Lihou. See 541.

541.—**Lihoumel.**—R. Dim. of Lihou, or "joined, attached to Lihou." Br., *mell*, *melle*, *mellez*, joint; com. W., *cymmal*. The latter term is most appropriate.

542.—**Le rouge Lihoumel.**—R. See 541.

543.—**La boue du rouge Lihoumel.**—R. See 541.

544.—**Les Lihoumioux.**—R. See 540.

545.—**Le Coin.**—R. "The corner rock."

546.—**L'Etacré.**—R. The whistling buoy lies near this rock. The full form of the word *étacré* means to relax, diminish. *Etac* or *eta*, however, means a mass, heap; *cré*, strong, rocky. See 111, 158.

547.—**La Pêqueresse.**—R. See 165. Br., *pega*, attached, united.

548.—**Pechton.**—R. This name appears in Cochrane's Map of Guernsey, pub. in 1832. The word is Kel. "The deep one," or possibly "the deep pointed rock." Br., *beg*, *pec'h;* W., *pig*, point; Br., *don*, *doun*, deep.

549.—**L'Erée** (or Le Rée) **Castle.**—See 550. *Sedum acre* grows on the rock.

550.—**L'Erée.**—B. This word signifies "rocky." Com. this, however, with Lihou (538), also with the W., *llwrwg*, dregs, sediment.

551.—**Padin.**—R. "Lasting." Br., *pad*, *pat*, duration; W., *pad*, what keeps together.

552.—**Le rocher Nault.**—R. Kel. "The rock that slopes down."

553.—**La fosse au héron.**—B.

554.—**La fosse des jardins.**

555.—**Flabet** (or Flabecq).—R. Possibly "strange, weak, or moving point."

556.—**La boue Sarre.**—R. This sunken rock was discovered by P. Sarre, pilot, of Crôlier, Torteval, hence the name.

557.—**La Colombelle,** or Le Colombier. } R.

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558.—**La Capelle.**—R. Lit. "beginning." "First rock followed by others." Chapelle Dom Hue = "The first rock of the dangerous spot," or of "the man that cries." Br., *ioua*, *iouc'hal*, to cry with all one's might, or from fear; W., *ioli*, *ioual*.

559.—**Les fonds niaux.**

560.—**Le noir rocher.**—R.

561.—**Le bleu gal.**—R. *Gal*, strong, solid, firm.

562.—**La fosse de haute mare.**

563.—**Les Founiaux.**—Perhaps pl. of *founet*, der. from Br., *founn*, abundant, thick, substantial, of fine dimensions. The word, too, may mean "the ropes."

564.—**Voisine.**—R.

565.—**Rousse.**—R. See 174.

566.—**La haute Banque.**—B. *Banque* means rest.

567.—**Le Croquet.**—R. "Rock formed like a hook," possibly, too, "little rock." Br., *croc*, *crok;* W., *crwg*, hook; W., *crwcäu*, to curve; com. Ir., *crogh*, pot-hook; Gr., *kremao*, to hang.

568.—**La pointe du Mont Chinchon.**—R. See 1,252.

569.—**La platte pierre.**—R.

570.—**Le Boin.**—R. W., *bwng*, orifice.

571.—**La grosse Souffleresse.**—R. Probably "whistler."

572.—**La petite Souffleresse.**—R. See 571.

573.—**Les boues de la roque Gohier.**—R. Roque Gohier = "bird rock." Br., *coih*, excrement; *ier*, bird.

574.—**La Sambule.**—R. Br., *sam*, *samm*, burden; Br., *bul;* W., *bwl*, a round, hollow body.

575.—**Le rueau de la Sambule.**

576.—**Les Charrières.**—R.

577.—**La boue Beir** (or bert).—R. Br., *bert;* W., *ber*, short; W., *byr*, short.

578.—**Les Messelettes.**—R. Either dim. of *messelles* (283), or der. from Br., *meslein*, to praise.

579.—**La roque Blondel.**—R. If Blondel is not the name of some one, the word may possibly be der. from Br., *blontec* = *blondec*, loach, groundling.

580.—**La boue du Sud-Est.**—R.

581.—**Perelle.**—B. A Kel. word meaning "rocky." An appropriate term, as this coast is very rocky. Near Perelle is *Le Catioroc*, "place or hut of sacrifice."

582.—**La neuve Charrière.**

583.—**Le rocher Messurier.**—R. Perhaps the name of some individual, or a Kel. word meaning "scattered." See 790.

584.—**La Caquièrre.**—R. Possibly = *catière*, flat rock. See 343. Com. W., *cadair*, seat, chair; Br., *cador*, seat; Ir., *cahir*, *caher*, chair. The latter part of the word *quièrre* or *quère* = no doubt *karrek*, rock. See 1,011.

585.—**Le gros large Brebis.**—R.

586.—**Le petit large Brebis.**—R.

587.—**Le rocher de devant.**—R.

588.—**Le Villain.**—R. Br., *bilain*, villager.

589.—**L'Eclet et le Péron.**—R. "The pebble and the stone."

590.—**La Cannette.**—R. "The rock washed by the sea." Br., *kana*, to wash; com. W., *cànu*, to bleach, to whiten.

591.—**Le roche de la Graive.**—R. *Graive* means sandy. See 959.

592.—**La grande Cambrette.**—R. Kel., "little room or resting-place"; Br., *kambr*, room.

593.—**La petite Cambrette.**—R. See 592.

594.—**La Torquetil.**—R. See 511.

595.—**Le Tanguet.**—R. "Fire-place." Br., *tan;* W., *tân*, fire; Br., *tanic*, little fire.

596.—**La fosse à quatre roches.**

597.—**La grande Galiche.**—Ch and g being interchanged in the Br. language, the word *galiche* may be der. from *chal*, ebb and flow of the tide. Br., *gal*, powerful; *iche* or *eih*, spot, place.

598.—**La petite Galiche.**—See 597.

599.—**La fosse à chats.**

600.—**Le long rocher.**—R.

601.—**Le Coupair.**—R. Probably Kel. W., *cop*, *copa;* Br., *cap*, head, summit.

602.—**Le plat Coupair.**—R. See 601.

603.—**La Tasse.**—R. Kel. "Empty."

604.—**La boue Jumelle.**—R.

605.—**La boue du Quevrechon.**—R. Undoubtedly Kel. Br., *kefred*, *kefret*, *kevret*, together, in company, compact, united; W., *cyfrdo.* whole, compact; *cyfref*, of equal thickness.

606.—**La Banquette.**—See 156.

607.—**Le rocher Brouard.**—R.

608.—**Le rocher Charles Le Cras.**—R.

609.—**Les poulettes.**—R. Br., *pull*, multiplied, multifarious; com. Gr., *polus;* Lat. and It., *pullulare;* Fr., *pulluler.*

610.—**Le jaune Pont.**—R. A name given to a ledge of rocks. *Pont* or *pond* is Kel. The word means weight. In Brittany the term is applied to heavy stones placed across a stream.

611.—**Le Quevrechon du Nord.**—R. See 605.

612.—**La Conchée.**—R. See 220, 1,022.

613.—**L'Equervelle.**—R. See 200, 296.

614.—**Le noir.**—R.

615.—**L'Eguignon.**—Perhaps der. from Br., *gwenn*, white ; W., *gwyn*, white ; *gwynu*, to whiten. The form of the word, however, may be *guignon*, "corner rock." See 853.

616.—**Le Housse.**—R. Undoubtedly Kel. Br., *huz*, *ahuz*, above ; W., *uchel*, high, lofty, towering.

617.—**Les petites roches.**—R.

618.—**Les fosses de la Conchée.**

619.—**Les Coignets.**—R. "The hidden rocks."

620.—**La Henrie.**—R. Br. and W., *hen*, old ; W., *henwr*, old man.

621.—**La grosse Maïs.**—R.

622.—**La petite Maïs.**—R.

623.—**La banque d'entre les Ponts.**—582-623 lie near Perelle (581) ; 613-623 form part of "La Conchée" (612).

624.—**Le Becquet.**—R. See 456.

625.—**La fosse Jean Le Messurier.**

626.—**La Crâne.**—R. No doubt of Kel. origin. 1. Br., *cranc*, crab, also shell-fish ; W., *cranc*, crab. 2. Br., *cran*, incision, cut, notch.

627.—**La fosse du gal.**—*Gal* means strong.

628.—**L'Aiguillon.**—R. See 29.

629.—**Le gros Pont.**—R. See 610.

630.—**La grande boue du gros Pont.**—R.

631.—**Les boues des Courtillons.**—R. "The place of men." Br., *gour*, man ; W., *gwr*, man.

632.—**La Caine.**—R. "The ledge." See 277.

633.—**L'Essart.**—N. Fr., *essart*, land lately cleared ; o. Fr., l. Lat., *exsartum*, to fell trees, clear the ground.

634.—**La fosse de l'Essart.**

635.—**Le plat Pont.**—R.

636.—**Le camp au Zon.**—B. Spelt also in one word "Campauzon." Kel., "joyous place." Br., *zon*, song, joy.

637.—**La banque à Corbin.**—See 539.

638.—**Le Croc.**—B. See 474. W., *croca*, crooked, tortuous ; *crocäu*, to make crooked.

639.—**Le rocher au neveu.**—R. *Neveu* is possibly a Kel. word. Br., *neunv*, *neunf*, art of swimming ; *neunvi*, *neunhi*, to swim ; Ir., *snaif*, to swim ; com. Heb., *naah* and Gr., *neo*. "The rock of the swimmer."

640.—**La noire roche.**—R.

641.—**Le pont Jean Thomas.**

642.—**Richmont** (Castle).

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643.—**La fosse aux Fêves,** or au Faivre.

644.—**Le Vazon.**—B. This bay was formerly a forest (see Tupper's Hist. of Guernsey, p. 26.) N. Fr., *vason*, marsh, inundated place, or place covered with mire ; *guason*, obs. form of Fr., *gason ;* Fr., *vase*, mud.

645.—**La grande Crabière.**—R. Perhaps der. from Br., *crab*, crab or shell-fish ; Br., *craban*, a claw.

646.—**La petite Crabière.**—R. See 645.

647.—**Les Perrons.**—R. See 372.

648.—**Les boues du Vazon.**—R.

649.—**Les boues Gavey.**—R.

650.—**Le Fourqui.**—R. See 94, 191.

651.—**La boue Groü.**—R. W., *gröyn*, ridge of pebbles formed by the sea; Br., *grou*, ice.

652.—**Le bec Horin.**—R. Br., *bec*, *beg*, point, extremity. 1. Br., *orin*, excrement of birds. 2. Br., *oriou*, a sea-bird, probably a gull.

653.—**Le Houmet.**—N. Fr., *houmet*, rock. See note on Castle Cornet. Métivier says *houmet* means a peninsula or pasturage under water. In the present case the term peninsula is applicable, but the correct form of the word seems to be Hommet.

654.—**Les roques du Bois,** or aux Bois. } R.

655.—**La boue du Sud-Ouest.**—R. 654 and 655 are the northernmost rocks off Guernsey.

656.—**La Mirouane.**—R. 1. Perhaps der. from Br., *merwent*, S.W. wind; *mer* pl. of *mor*, sea, and *went* = *gwent*, wind; W., *môr*, sea; *gwynt*, wind. "Wind of the sea." In connection with this, notice 655. 2. On the other hand, the word may mean "pointed arrow." Br., *mir*, pl., *mirou*, pointed; com. o. Eng., *arewe;* Ir., *mir*, top, summit.

657.—**La Susanne.**—R. 1. Dan., *susen*, whistling, whizzing; *suse*, to whistle, rush; Du., *suizen*, to tingle, buzz. 2. The word, however, may have a Kel. origin, signifying "the barricade." Br., *susa*, obstacle.

658.—**La Grunette.**—R. Dim. of 659.

659.—**Les Grunes.**—R. See 105.

660.—**La Moulière.**—R. Possibly the same as 140.

661.—**Les Frettes.**—R. "Surrounded by fish." Br., *frettes*, small fishes.

662.—**Albecq. Havre Vase.** } B. Br., *al becq*, its head.

663.—**Albecq** (Castle).—"The head, point." Albecq, however, seems to be an ancient family name.

664.—**Portelet.**—B. Dim. of Fr., *port*, harbour, cove.

665.—**Dos d'ane,** or Dosdarne. } R.P. Possibly a corrupted expression. "Rocks allied to one another." Br., *tost*, near; *dosda*, *dosta*, *tostaat*, to draw nearer, closer, to diminish the distance of.

666.—**Etreinfer** (or Etrainfer).—B. Br., *treinfer*, movable rock or substance.

667.—**Les blanches boues.**—R.

668.—**Les boues d'Etreinfer.**—R. See 666.

669.—**Cobo** (or Caûbo).—B. 1. W., *cau*, hollow, shut, inclosed; *co*, rotundity, concavity. *Bo* or *bot* is evidently bay, *e.g.*, Petit Bot, small bay. Br., *kao*, hollow; *cau*, cave. 2. Some suppose *cau* = N. Fr., *caud;* Fr., *chaud*. Warm bay. I prefer the Kel. derivation. Caûbo seems to be an ancient family name.

670.—**La tour Robin.**—R. Perhaps Br., *rohin*, rocky. See 1,005.

671.—**Les Houilles.**—See 122. However, Br., *houl* = wave of the sea.

672.—**La platine du Contemps.**—*Contemps*, an expression of uncertain origin, perhaps connected with Br., *contam*, lit. poisoned; com. Lat., *contaminare*, both formed from *tamm*, piece, fragment. *Platine* is no doubt der. from Br., *plat*, *plad*, flat; com. Gr., *temno*, *tamno;* Heb., *dama;* Ch., *hadam*. I believe, however, the expression may possibly mean "The half side of the flat rock." *Ine* signifies "divided into two parts."

673.—**Les Rougières.**—Br., *roug*, a rent; W., *rhwyg*, rent, rupture; *rhwygo*, to rend, tear; Br., *rougein*, to tear; com. Gr., *regnumi*.

674.—**Les petits Bers.**

675.—**La tête du long rocher.**

676.—**La Décochère.**—"The washed one." Br., *degoc'ha*, to wash; *digouchiein*, lit., to take away stains; com. W., *tegychu*, to embellish.

677.—**Les petits Camiaux.**—R. See 678, dim.

678.—**Le gros Camé.**—R. Br., *cam*, *camm*; W., *cam*, crooked; Ir., *cammigh*, to bend.

679.—**Les hommes.**—R.

680.—**Le petit Etacq.**—R. See 111.

681.—**Le gros Etacq.**—R. See 111.

682.—**L'Etouaire.**—1. Perhaps "burnt." Br., *eteo*, *etew*; W., *etewyn*, *ytewyn*, lit., firebrand. These words are der. from *devi* = *tevi* or *tewi*, to burn. 2. Br., *etoüez*, in the midst of.

683.—**Les Jonquais.**—Perhaps an error for *shouquay*, The word has no doubt a Kel. origin. Br., *choue*, burden, lit., back, ridge; *scouc* = the old form of the word.

684.—**La roche à la maux.**—R. *Maux* = probably *mauves*, sea-gulls; *mao*, a bird of prey.

685.—**La Cheminée.**—R.

686.—**La Gargouille.**—Perhaps "jargouille." Br., *iar*, bird; *garg*, passage; Eng., *gargoyle*, a projecting water-spout.

687.—**Le rocher du Hommet.**—R.

688.—**La pierre à la pie.**—R.

689.—**Le Contretemps.**—See 672.

690.—**La Ronde.**—R. "The round rock."

691.—**L'Eronde.**—R.

692.—**La roque au chien.**—R.

693.—**Pildras.**—R. Kel. Br., *pell*, far, distant; *pellder*, distance, also extent; W., *pellder*, *peldra*, remoteness, distance; *bras*, large.

694.—**La Vraiqueuse.**—R. Two interpretations are admissible. 1. N. Fr., *vrec*, wrack; *vréquiei*, to gather sea-weed; com. Ic., *voyrek*, refuse of the sea. 2. Br., *frega* = *vrega* or *vreka*, to break, rend.

695 —**La petite Fourquie.**—R. See 94.

696.—**Bêtesse.**—R. Kel., "distant."

697.—**L'Ecossaise.**—R. Although this seems to be a Fr. word, I think it quite possible it may be Kel. Br., *ek*, *ec*, *ec'h*, point; W., *awch*, point; Gr., *ake*; Lat., *acies*, *acuere*; compare also Gr., *oxos*, pointed.

698.—**Fère Le Cocq.**—R. Another Kel. expression. "Strong rock," perhaps "strong, hidden rock." Br. and W., *fer*, *ffer*, firm, strong; W., *llechu*, to lie hid; Br., *lec'h*, rock; W., *ffolachog*, thick set. The expression may mean "hidden now and then."

699.—**La Moulière.**—R. See 140.

700.—**La grande Fourquie.**—R. See 94.

701.—**La noire tête.**—R.

702.—**Les boues aux mers.**—R.

703.—**Le long Port.**—B.

704.—**La grosse roche.**—R.

705.—**La boue au chien.**—R.

706.—**L'harche.**—See 497.

707.—**La pointe.**—R.

708.—**Les Héronnières.**—R.

709.—**Le long rocher.**—R.

710.—**Les rochers du Videlin.**—R. It is highly probable that *videlin* means "slope, inclination."

711.—**Les petits Auvrais.**—R. 1. Br., *off*, trough. 2. Br., *ouffe*, gulf, creek, corner, winding.

712.—**Le Mont devaloir.**

713.—**Le Houmet Jerbé**, or Herbé, or Herby. } R. *Herbé*, bitter rock; *jerbé*, haunt of the birds.

714.—**Le Canon.**

715.—**La Traitresse.**—R. Perhaps Kel. Br., *trei*, to twist, turn.

716.—**Saline.**—B. "Place of salt."

717.—**La boue Josias.**—R.

718.—**La boue de Saline.**—R. See 716.

719.—**Les dents d'Herche.**—R. Br., *derc'h*, lit. that which stands upright or straight; W., *dyrchafu*, to lift up; *dyrchafiad*, elevation.

720.—**La haute paroi.**—R. See 46.

721.—**La Querre.**—R. Perhaps "united" or "formidable." The term *quère* means rock.

722.—**Le nic au Corbin.**—See 539.

723.—**Les grandes Rocques.**—R. 670-723 are situated in the neighbourhood of Cobo.

724.—**Le port aux mouches.**—B. Perhaps der. from Br., *mouchel*, a kind of hawk; com. W., *myth*, swift.

725.—**Le port aux malades.**—B.

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726.—**Port Soif.**—B. 1. W., *swyf*, foam. 2. *Soif*, however, may be a corruption of Br., *scorf*, discharge from a pond. The form and appearance of the bay favours the latter idea. The water is very shallow, and the bay may have been a pond in former times.

727.—**Portinfer.**—B. Br., *porthfa*, harbour; W., *porthfa*, carrying place, port.

728.—**La boue du Sud-Est.**—R.

729.—**Le grand Sauroquier.**—R. In ancient maps spelt Soroquier. "High rock," also "hard rock." Br., *sau*, *so*, high, hard.

730.—**Le petit Sauroquier.**—R. See 729.

731.—**Le Tac** (or le Jack).—R. See 111.

732.—**Le Houvergin.**—R.

733.—**La vieille de Portinfer.**—R. See 727.

734.—**Le Fougnet.**—R. Br., *fonn*, *fon*, thick, substantial, of fine dimensions; com. W., *ffynnu*, to thrive, prosper.

735.—**Les boues de Braine.**—R. Br., *brân*, crow. On the other hand, Br., *brein*, *brëen*, *brain*, rotten, corrupt; W., *braen*, corrupt, corruption; Ir., *brian*, *briantis*, offensive odour.

736.—**Les boues de la Mare.**—R.

737.—**La demie du Nez.**—R. Br., *nez*, nest; W., *nyth*, nest. See, however, 43.

738.—**Le Becquet.**—R. Br., *bek*, *beg*, point; W., *bechyn*, little hook.

739.—**Le Rousse.**—R. See 174.

470.—**Les boues Cauneilles.**—R. In this case the term *boue* is not applied to a sunken rock. 1. W., *conell*, tail. This rock is very long, conse-

quently the term is appropriate. On the other hand, Kel., *caun*, a corruption of *corn*, *courn*, *caurn*, corner, horn; *eilles*, or *eyies*, or *êlies*, *èyies*, goat. "Corner of a rock formed like a goat."

741.—**Les Moulières.**—R. See 140.

742.—**Le noir rocher.**—R.

743.—**Le col de noire Pierre.**—R. W., *col*, peak, summit.

744.—**Le Netz.**—R. See 737.

745.—**Les boues des Pequeries.**—R. See 748.

746.—**Le noir Houmet.**—R.

747.—**La pierre à la Moue.**—R.

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748.—**Le Pequeries.**—B. "Attached, united rocks." Br., *pega*, to attach, adhere. See also 547, 1,152.

749.—**La Jubert.**—R. Perhaps the meaning is "whistling, sonorous." Br., *c'hwebu*, a gnat, so called on account of the noise it makes with its wings; W., *gwybed*, a gnat.

750.—**Les Faiêtières.**—R. Undoubtedly a Kel. term. Possibly "scorned or despised rocks." Br., *fâe*, contempt; *fâe*, *faéa*, to despise; Ir., *fi*, to despise; W., *ffiaidd*, loathsome, detestable; com. Heb., *phoug*, to withdraw from, quit; Ar., *foh*, *fih*, to emit a smell.

751.—**Le Cainet.**—R. Dim. of 752.

752.—**La Caine.**—R. See 277.

753.—**Pulias.**—B. Probably Kel. Br., *pull*, copious; *puill*, thick set.

754.—**Les Camps Sauvages.**—R.

755.—**Les roches Lucas.**—R. Kel., "the bright or shining rocks." Br., *luc'hein*, *luc'ha*, *luya*, to glow, to be bright; W., *lluch*, flashing, gleaming; *lluched*, gleams; *llugas*, dawning of light; *llygaden*, glance of light; *llewych*, brightness; Gr., *leukos*, bright, clear; Lat., *lux*, light; San., *laukas;* Ger., *licht*, light; *leuchten*, to shine.

756.—**La boue du Port Grat.**—R. See 761.

757.—**Le Houmet Masselin.**—R. "The remaining part of the rock."

758.—**La pierre à la Maux.**—R. Probably "gull rock."

759.—**La pierre es Nants.**—R. "The rock of the dwarfs or spirits."

760.—**Les blanches Roches.**—R.

761.—**Port Grat.**—B. "Pleasant Bay." Br., *grataat*, to please; *grat*, liking, pleasure, consent; W., *gras*, favour; Ir., *graa*, pleasure; Lat., *gratus*, lit., causing joy, hence, pleasing, agreeable.

762.—**Le noir de Verm.**—R. See 7.

763.—**Le Mont d'Acier.**—R. The Fr. word *acier* is der. from the root, *ac*, pointed; com. Lat., *acus*; Gr., *ake;* l. Lat., *aciarium*.

764.—**Les menues Marquies.**—R. Undoubtedly Kel. Br., *marc*, *merk*, pl., *marcou*, mark; *merca*, to mark; W., *marc*, mark; Heb., *maraq*, to polish; also to brand, mark indelibly.

765.—**La Marquie.**—R. See 764.

766.—**Les Auber.**—R.

767.—**Les Sambules.**—R. See 574.

768.—**Le Guignon.**—R. Probably "the corner rock." Br., *guign*, corner.

769.—**La boue à chien.**—R.

770.—**La pierre à Ballais.**—R.

771.—**L'œil de Bœuf.**—R.

772.—**Le petit Moulinet.**—R. See 6.

773.—**Fer de Biche.**—R.

774.—**Les Plattes.**—R. "The flat rocks."

775.—**La grossette des Moulineaux.**—R. Possibly dim. of Moulinet. See 6.

776.—**Le banc du Pont.**—R.

777.—**La Naif.**—R. A word which seems to mean "nine." Br., *naff*, *nao*, *naw*; W., *naw*, nine; Br., *nawvais*, nine times; com Lat., *novem*; San., *nawam*.

778.—**La mare au Moine.**—R. See 431.

779.—**Le col du Pont.**—R.

780.—**Les Hoffets** (or Offez).—R. Perhaps "the troughs"; der. from Br., *off*, or possibly "the spot of the fairies." Br., *of fez*.

781.—**La Fourchie.**—R. See 94.

782.—**Fille de Mer.**—R.

783.—**Rousse de Mer.**—R. See 174.

784.—**Gripe de Rousse.**—R. See 174, 1,025.

785.—**La boue du Fossé.**—R.

786.—**La Manne** (or Main).—R. Br., *man*, *mann*, appearance, mark.

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787.—**Grand Havre.**—B.

788.—**La boue de la Graive.**—R. *graive*, sandy.

789.—**Saint Michel.**—R.

790.—**La pointe des Messuriaux.**—R. "The point of the scattered rocks." Br., *messu*, here and there; *riau*, rock.

791.—**Plat Four.**—R.

792.—**Giffourd.**—R. Br., *gufor*, *giffour*, cavernous.

793.—**Guillaume.**—R. "Hard, solid rock." Br., *guel*. See 1,165.

794.—**Surtauve.**—R. See 136.

795.—**La tête de dedans les Moulineaux.**—R. See 775.

796.—**La platte Jetteuse.**—R. "The flat signal." Br., *yet*, signal.

797.—**La Jouganne.**—R. "Overloaded." Br., *ceoga*.

798.—**La blanche boue.**—R.

799.—**Les Ancreois.**—R. Four rocks bear this name. They are numbered respectively 1, 2, 3, 4. The meaning of the word is probably "the middle one." Br., *creiz*, *craiz*; W., *yngres*, middle; Ir., *cri*, heart; Br., *encreis*, in the middle; *enc-creis*, short middle one.

800.—**Lavrier.**—R. Undoubtedly Kel. "Shining, slippery"; perhaps "sonorous." Br., *lavara*, to speak; W., *llafar*, sonorous; Ir., *lavirt*, word; *lavart*, to speak.

801.—**La boue à la Baye.**—R.

802.—**Le rocher de Rousse.**—R. See 174.

803.—**Le cochon.**—R.

804.—**La Crabe.**—R.

805.—**La Vache.**—R.

806.—**Les petites Platières.**—R. *Platières*, lit., plates; Br., *plat*, *plad*, flat; com. Gr., *plata*, the flat part of a thing; Heb., *palat*, to spread, enlarge; *quêre* or *carrek*, rock.

807.—**La grosse Platière.**—R. See 806.

808.—**La demie des Platières.**—R. See 806.

809.—**La tête des Platières.**—R. See 806.

810.—**Le rocher du gros sablon.**—R.

811.—**Les Piquereaux.**—R. Dim. of 812.

812.—**Le Piquerel.**—B. N. Fr., *pickray*, *piqueray*, ground covered with pebbles. See 417.

813.—**Le rocher de l'Islet.**—R. L'Islet is in St. Sampson's parish.

814.—**Les Amarreurs.**—B. Du., *meeren*, to moor; *marren*, to detain, delay; o. Teu., *maarjan*, to stop.

815.—**La pierre à l'Aigle.**—R.

816.—**La demie des Ettois.**—R. "Rocks situated in the midst of or between others." Br., *etoüez*, *etoües*, between; W., *yttoedd*, *ydoedd*; com. Fr., *mitoyen*; Ger., *zwischen*.

817.—**Le Houmet de Graive.**—R. See 1, 818.

818.—**Les Graives.**—R. "Sandy."

819.—**Les Tangériaux.**—R. "Resting places," or "places exposed to the sun."

820.—**La Lochante.**—R. Br., *loc'heta*, to remove stones on the beach in order to find fish or shells; *loc'ha*, to lift.

821.—**Mont Cuet.**—Br., *mont kuit*, lit., to go away. The term seems to refer to a cliff that slopes down very gradually into the sea. Com. l. Lat., *quietare*. *Cuit* = Fr., *en*; Lat., *inde*.

822.—**Grand Camp.**—B.

823.—**Les Silleuses.**—R. Probably "the bright or shining rocks."

825.—**Grève Cœur.**—B. Perhaps der. from Br., *eûr*. to dig; com. Heb., *chara*.

826.—**Les grandes boues.**—R.

827.—**La grande roche au Nord.**—R.

828.—**La petite roche au Nord.**—R.

829.—**La boue de la roche au Nord.**

830.—**Les Jouquets.**—R. Perhaps "the burdens." See 797.

831.—**Les boues au chien.**—R.

832.—**Les boues des Coursières.**—R. Spelt also in two words, Cour Sair.

833.—**Le Péron.**—R. See 186.

834.—**La boue sablonneuse,** or à sablon. } R.

835.—**Jaonneuse.**—B. "The bay where the sea foams." See 17, 180, 1,143. Br., *eonnek*, foam; W., *geian*, foam. The Kel. root appears in the word *klanjeon* or *kiangeon*, a small sea bird that skims the water and dives. Br., *glann*, *klann*, furrow, shore; W., *glan*, brink, shore; com. Ir., *glainn*, valley, slope.

836.—**L'Ancresse.**—B. No doubt a Kel. term. Br., *ankelhier*, that which goes round, circular.

837.—**Les Connuettes.**—R. W., *con*, peak, cone.

838.—**La boue du Banquet.**—R. See 156.

839.—**La Querette.**—R. Possibly dim. of 721, or signifying "the green rock"; Br., *gwer*, *gwerh*; W., *gwyrdd*, green.

840.—**La boue du Court.**—R.

841.—**Platte Creftieurs.**—R A word that seems to give the idea of roughness. Com. W., *crefft*, trade; *crefftwr*, handicraftsman. "A place where the sea works."

842.—**Fougniet.**—R. See 734.

843.—**L'Enguineuse.**—R. Possibly der. from Br., *gwennic*, whiting; *gwenn*, white; W., *gwyn*, white; *gwyniad*. See, however, 768.

844.—**Les Becquets.**—R. "The points." See 738.

845.—**Le Plomb.**—R. Perhaps "the covered rock." Br., *plouma*, lit., to cover with lead, also to plunge; *plûmvia*, *plûnvia*, *plunhia*, to plunge, to go under the water; com. l. Lat., *plumbiare;* Gr., *plunein*, to wash; Ger., *plumben*, to fall plump into the water.

846.—**L'Angle.**—P. Br., *anc;* W., *ang*, angle; W., *ongl*, corner; Lat., *angulus*, angle, corner; Gr., *agkulos*, bent, angular. It is worthy of observation that the word Guernsey signifies "isle of angles."

847.—**Champ Fleuri.**—B. Br., *fleria*, to emit a bad smell; W., *ffleirio*, to stink.

848.—**La banque au Mouton.**—B.

849.—**La demie de la Banque au Mouton.**—R.

850.—**La demie du Plomb.**—R. See 845.

851.—**Fontenelle.**—B.

852.—**Boue de Fontenelle.**—R.

853.—**Le Guignon.**—R. "The corner rock." Br., *guign*, corner; com. Gr., *gônia*.

854.—**Le Mer.**—R.

855.—**Les Messuriaux.**—"The scattered rocks." See 790.

856.—**Le Onuet.**—R. Kel. Br., *anouët*, *anwet*, cold; *anwedi*, to be cold; W., *anwyd*, coldness.

857.—**L'Itériere.**—R. "Oyster rock." N. Fr., *ître*, oyster.

858.—**Les Silleresses.**—R. "The dripping rocks." See 370.

859.—**Le fossé du Faie** (or Faye).—R. See 750.

859a.—**Les boues à la Rouge.**—R.

860.—**L'Etocq.**—R. See 247.

861.—**Le Pouillet.**—R. Br., *pöell*, tie, bond.

862.—**Les Grunes de Braye.**—R.

863.—**Roque Vieille** (or Viel).—R. "Not firm."

864.—**Le Valtet.**—R. "The wicked one." Br., *fall* = *vall*, wicked, of little worth; W., *ffael*, fault, failing; *ffaelu*,, *ffaelio*, to fail, miss.

865.—**Le grand Braye.**—R. Br., *braz*, large; W., *bras*, large, thick.

866.—**La Baissiere** } de Braye.—R. **Le Barsier** } See 327. *Barsier*, means "the inner rock." Br., *bars*, within.

867.—**La petite Braye.**—R. See 865.

868.—**L'Aujeur.**—R. Probably Kel. 1. Br., *lojenn*, *lochenn*, hut; *lok*, *loc'h*, place; com. W., *lloches*, refuge, hiding place. 2. Br., *eor*, anchor; *eoria*, to anchor; *jour*, pl., *joureu*, anchor; W., *angor*, anchor; com. Gr., *agkura*.

869.—**Les Fourquies.**—R. See 94.

870.—**L'Andièque.**—R. "The hidden one." Lit., "having no point." A Kel. term. Br., *an*, the; *di*, without, not having; *ek*, point; W., *di*, void of; *awch*, point.

871.—**Les boues de La Mare.**—R.

872.—**Les roques de Braye.** } R. **Platte Fougeres.** } See 865. W., *ffugiwr*, dissembler; *ffugio*, to disguise, feign. Probably "the rocks that seem to be what they are not."

873.—**Les Etaquériaux.**—R. See 78, 79.

874.—**Les Grunes Pierres.**—R.

875.—**Les Bouettes.**—R. Br., *böet, böed*, bait for fish; W., *bwyd*, food.

876.—**La grande Canupe.**—R. Lit. "the singer," "the rock that beats or makes a noise; Br., *kana, cana;* W., *canu*, to sing; com. Lat., *canere.*

877.—**La petite Canupe.**—R. See 876.

878 —**Le Piard.**—R. *Iar*, bird. Possibly "the chicken."

879.—**La Moulière.**—R. See 140.

880.—**Le Vrac.**—R.

881.—**Homptole** (or Omptolle).—R. I. Kel., "Our table." Br., *taol.*

882.—**Les Grunes de la Fosse.**—R.

883.—**La boue d'Amont.**—R.

884.—**Les Chouquets.**—Kel. "Sign of the passage."

885.—**Le Huguet.**—R. Kel. "The passage."

886.—**La Galie.** See 171.

887.—**Le Bectondu.**—R. "The cut point," or "point razed to the ground."

888.—**Le Hareng.**—R.

890.—**Gant.**—R. "Rocks attached to others." Br., *gant;* W., *gant*, with.

891.—**Corbette.**—R. "Noted, visible rock." "Rock that can be seen."

892.—**Les boues de la Tasse.**—R. *Tasse*, a word meaning "empty."

893.—**Le Houmet Benêt.**—R. "Rock of the extremity." *Benn, penn*, point.

894.—**Les Becquets.**—R. "The pointed rocks."

895.—**La touffe de Jaon.**—R. A Kel. expression undoubtedly signifying "the foaming rock." Br., *tufa*, to foam, spit; *eon, ion, eonenn*, foam; *eôna*, to foam; W., *ewyn*, foam, froth; *ewynn*, to foam.

896.—**Le gros rocher.**—R.

897.—**Le Havre de Bordeaux.**—B. "Bordeaux harbour." The word *bordeaux*, means "shore," "bank."

898.—**La banque Imbert.**—B. Imbert may be the name of some one, it is rather common in Brittany.

899.—**Les Jumelles.**—R.

900.—**Divette.**—R. See 57.

901.—**Diftet** (or Difté).—R. "Rock that makes a rumbling noise." Br., *def.*, Lit., deaf, also rumbling; *tef*, thick, large; Br., *têval;* W., *tywyll*, dark, dull.

902.—**L'Etacré de l'Ouest.**—R. See 158.

903.—**La boue du Nord du Plat Rocher.**—R.

904.—**Le dessous des grandes maisons.**

905.—**La grande boue.**—R.

906.—**La boue Vracqueuse,** or Verquère. } R. See 694.

907.—**Le Poichin.**—R.

908.—**Le Houmet au Creux.**—R. See 1.

909.—**Le Bouillon.**

910.—**La Crabière.**—R. See 645.

911.—**La Poule.**—R. See 982.

912.—**La noire roque.**—R.

913.—**La Kainette.**—R. Dim. of *kaine.* See 277.

914.—**La Bouette.**—R. See 875.

915.—**Les Maisonnettes.**—R. These rocks no longer exist. See deliberation of the States of Guernsey, 13th January, 1896.

ST. SAMPSON'S.

916.—**Le Havre de St. Sampson.** St. Sampson's Harbour.

917.—**Les Grunettes.**—R. Dim. of *grune*. See 105.

918.—**Lincheballe.**—R. A Kel. word. "Attached, united." Br., *liu*.

919.—**Le Brise Mer.**—R.

920.—**Le Mont Crevelt.**—Lit. "the split or open mount."

921.—**La boue du nord de Torode.**—R. See 923.

922.—**Le fossé de Torode.**—R. See 923.

923.—**Torode.**—R. A Kel. term. Br., *tor*, *torr*, fracture; W., *tori*, to cut, fracture.

924.—**La grande Demie.**—R.

925.—**La Durandière.**—R. Another Kel. word. "Dangerous." Br., *turan*.

926.—**L'Assiette d'Etaim,** or La Siete d'Etaim. } R. This seems to be a Fr. expression. Yet it may be a corrupted Kel. form. Br., *siet*, defectuous; *dastum*, *destum*, accumulation.

927.—**La Morvilière.**—R. Kel. "Rounded by the sea." Br., *mor*, sea; *bili*, a round pebble.

928.—**Frotu** (or Frotechu).—R.

929.—**Le grand Houmet.**—R. See 1.

930.—**Le plat rocher.**—R.

931.—**Les trois Grunes.**—R. See 105.

932.—**Les boues du bateau au Tangon.**—R. See 933.

933.—**Le bateau au Tangon.**—R.

934.—**Le petit Houmet.**—R. See 1.

935.—**L'Etoquet.**—R. See 247.

936.—**Berhac.**—R. Kel. "Shortened, made smaller." Br., *berr;* W., *byr*, short; Br., *berraa*, *berraat*, shortened; W., *byrhau*, to shorten, abridge; com. Gr., *brachus*.

937.—**La verte baie.**—B.

938.—**La Longue Hougue.**—B.

939.—**Les Silleresses.**—R. See 370.

940.—**Vivian.**—R. Kel. "Very small." Br., *bihan*, *vihan*, *vehan;* W., *bychan*, small; Br., *da-vihana*, the smallest; Ir., *begg*.

941.—**L'Epéquillon de Vivian.**—R. See 940, 1,152. *Épéquillon*, means adhering, cleaving to.

942.—**La boue du Banquet.**—R. See 156.

943.—**Le rocher du Bout des Banques.**—R.

944.—**Le rocher au Vrac,** or à Varech. } R.

945.—**Le Pajeot.**—R.

946.—**La Héronnière.**—R.

947.—**La vieille Jetteuse.**—R. "The old signal." Br., *yet*, signal.

948.—**La pointe de l'Eperon.**—P. "Spur point."

949.—**Les boues Aujeur.**—R. See 868.

950.—**Les Naas de Kemp.**—R. *Naas*, is no doubt Kel. W., *nais*, tie, bond. Probably "connected with or attached to Kemp rock."

951.—**Kemp.**—R. Kemp, a soldier who was sentenced to death for murder. He committed suicide in prison, but his corpse was afterwards chained to this rock.

952.—**La baie du Venet.**—B. Either "white bay" or "bay of the whiting." Br., *gwenn*, white; *gwennek*, whiting; W., *gwyn*, white; *gwyniad*, white.

953.—**La boue du Nord.**—R.

954.—**La boue à la rouêlle.**—R.

955.—**Flieroque.**—R. Possibly "limpet rock."

956.—**La demie de Flieroque.**—R. See 955.

957.—**La boue du Sud-Est.**—R.

958.—**Les Fourquies de Belle Grève.**—R. See 94, 191, 959.

959.—**Belle Grève.**—B. "Fine Bay." The terme *grève* is applied to some sandy beaches; Genevese, *grave*, a place covered with gravel; provç., *grava*; Br., *grouan*, sand; W., *gröyn*, pebbles; San., *grävan*, stone.

ST. PETER-PORT.

960.—**Les boues Agenor.**—R. "The white hidden rocks." *Benn*, *aben*, point; *or*, white.

961.—**La Sablonière.**—R. The sandy place. In connection with this, notice 960.

962.—**Le rocher de la Tonelle.**—R.

963.—**Le rocher puant.**—R.

964.—**Le rocher Fiéâtre.**—R. "Rock of the hearth."

965.—**La Hougue à la Père.**—N. Fr., *hougue*, *hogue*, height, eminence, heap; l. lat., *hoga*; Ic., *haug*; o. h. Ger., *houc*, *hôha*, *hohi*; Dan., *höi*. La Père might be the name of some one, but it must not be forgotten that the Kel. root, *per*, *père*, signifies a rock.

966.—**Les longs Brayes.**—R. See 865.

967.—**La roque Seinresse.**—R. "Rock of the fairy." Br., *sein*, fairy.

968.—**La Baisseresse.**—R.

969.—**Le petit Vareau.**—R.

970.—**La boue du Sud-Ouest.**—R.

971.—**La platte boue.**—R. See 99.

972.—**L'Epéquillon.**—R. See 941.

973.—**La Truie.**—R.

974.—**Les Plaquères.**—R. See 806.

975.—**Le rocher Brown.**—R.

976.—**Le rocher Frédéric.**—R.

977.—**Draout.**—R. "Low rock." Br., *traon*, *traoun* = *draon*, *draoun*, low.

978.—**La boue de Draout.**—R. See 977.

979.—**La tête du Braye.**—R. See 865.

980.—**L'Hirondelle.**—R.

981.—**Matthieu Câtel.**—R. Possibly "Matthew's Castle." Br., *kastell*; W., *castell*, castle.

982.—**Les Poulets.**—R. Perhaps "cavernous rocks." Br., *poull* = *toull*, hole; W., *pwll*, ditch; Ir., *puil*, ditch. Perhaps "holes filled with water."

983.—**Les Pâlaires.**—R. Possibly "what is large and flat."

984.—**La boue Logat** (or Lauga).—Br., *loga*, hidden.

985.—**La Réfée.**—R. "Rough." W., *rhefu*, to thicken round.

986.—**Tommy Rock.**—R. Br., *tom*, *tomm*, warm; W., *twym*, warm.

987.—**La Kaine.**—R. See 277.

988.—**Les boues de la Kaine.**—R. See 277.

989.—**La boue Penny.**—R. Br., *penn*, head, summit; dim., *pennic;* W., *pen*, head, top; com. It., *penna;* Sp., *peña;* Fr., *penon*, *penonceau*. Probably "rock having a small head or summit."

990.—**Les Tinées.**—R. "Rocks in the form of a tent." Br., *tinell*.

991.—**Le court Braye.**—R. See 865.

992.—**La Salerie.**—"The place where salt is amassed."

993.—**La fosse Copin.**—*Copin*, black.

994.—**La roque à deux têtes.**—R.

995.—**La demie du Goubeau.**—R. See 996.

996.—**Goubeau** (or Goubo).—R. Br., *gou*, *gaou;* W., *gau*, false, lie, lying; *baut*, large, formidable. "Place of lying," hence, no doubt, "deceitful rock."

997.—**La Sardrette.**—R. Different meanings are admissible. W., *sardd*, recumbent; Br., *sarr*, sea-weed; N. Fr., *sarde*, bream.

998.—**La boue de la Sardrette.**—R. See 997.

999.—**La boue Gosselin.**—R.

1,000.—**La Blanche Roque.**—R. "The white rock."

1,001.—**La roque Saint Julien.**—R. "St. Julian's Rock." 1,000 and 1,001 may be said practically no longer to exist, as the White Rock pier is built over them. I have inserted them to make the list as complete as possible.

1,002.—**Le Havre de Saint Pierre Port.**—"St. Peter Port Harbour."

SARK.

The Fr. form of the word Sark = *Sereq*, seems to signify "a tomb or grave;" Br., *serc'h*; com. o. Fr., *sereus*, and Fr., *cercueil*.

1,003.—**Le Creux** (Harbour).—So called from the subterraneous passage in the locality. Before the piercing of the tunnel, the bay was called "La Baie de la Motte."

1,004.—**La falaise à génée.**—Cl. *Cytisus scoparius*, broom, grows on the top of this cliff. Fr., *genet;* hence the name.

1,005.—**Le Robinet.**—Possibly *rohinec*, a Br. word signifying "rocky."

1,006.—**Les Laches.**—Cl. R.—A Kel. word. "Dangerous." Br., *lasa*, to kill; *lazarez*, killing, massacre; W., *lladd*, to kill; com. Lat., *lethum*.

1,007.—**La boue au Moigne.**—R. Br., *moan*, narrow, small; *moañoc'h*, smaller; *moanaa*, to make narrower; W., *mân*, small, little; Br., *mîn*, a point that gets narrower and hence difformed.

1,008.—**Le Four.**—"Hollow."

1,009.—**La Moie des Laches.**—See 1,006.

1,010.—**La boue de la pierre Carré.**—R. See 1,011.

1,011.—**La pierre Carré.**—R. Carré is a family name in Sark; in this case, however, Carré may have a Kel. origin, meaning "a rock." Br., *carrec*, *karrek*, a rock in the sea; W., *careg*, stone; *caregog*, full of stones; *caregu*, to become stone; Ar., *çachra*, a rock; Ir., *carrigh*, a rock; *carraice*, strong; Heb., *karrach*, rocky, stony.

1,012.—**Le Creux à Aplais.**—Lit. "the hole which has been formed or worked out for that purpose." Com. *ap*, in aptitude.

1,013.—**Le platon à Môle.**—Perhaps a corruption of Br., *amheol*, *ameol*, deprived of the light of the sun.

1,014.—**Le Creux Malzar.**—"The white hole." Br., *malzar*, white, also snow-flake.

1,015.—**Le creux Brown.**—Brown may or may not be the name of an individual. Br., *bröen*, rush; W., *brwyn*, rushes; *brwyneg*, a place where rushes grow; com. Br., *brug*, *bruc*, heath; Gr., *bruon*, a kind of mossy sea-weed.

1,016.—**Le petit Derrible.**—O. Fr., *derrible*, *derrube*, *desrube*, a fallen mass of rock or hole in a rock formed by a landslip.

1,017.—**Les Merdes Haises.**—R. Br., *verdees*, marked rocks; *haises*, ingulfed. *Merdei* = *mordwyo*, der. from W., *mordwy*, which signifies roaring or raging of the sea.

1,018.—**Les Haises.**—R. See 152, 1,017.

1,019.—**La demie des Haises.**—R.

1,020.—**La boue à Hierus.**—R. Possibly *ieurus*; *ieu* = *geo* in Br. If we take this as correct the word may be der. from *georenn*, crayfish.

1,021.—**La boue à vent.**—R.

1,022.—**La Conchée.**—R. I doubt whether this word is der. from the Lat., *concha*, a shell, although it has the appearance of being a large shell, and also of being surmounted by small shells. I incline to a Kel. derivation. Br., *concheza*, to soil, defile. The top of the rock is undoubtedly soiled by cormorants. Several rocks on the coast of Brittany are called Conchée. See also 220, 612.

1,023.—**Pointe Viguette.**—P. Br., *bi*, *vi*, second; *guet*, passage.

1,024.—**La mer de la Conchée.**—See 1,022.

1,025.—**La Gripe.**—R. Br., *griped*, the snare.

1,026.—**Les Ponchettes.**—R. W., *ponc*, *poncen*, *poncyn*, hillock; *poncio*, to swell, heave; Br., *bonc'het*, united, near to one another.

1,027.—**La pointe Derrible.**—P. See 1,016.

1,028.—**La baie du Grand Derrible.**—B. See 1,016.

1,029.—**Le creux à chien.**

1,030.—**La pointe Balène.**—P. "The point of the pedestrian" or "prominence, peak." Br., *bale*, walk, to walk; W., *bâl*, prominence, peak.

1,031.—**La pointe du Château.**—P. The full form is "La pointe du Château des Quenevés."

1,032.—**Dicart** (or Dixcart).—B. Perhaps "dangerous spot," or "spot devoid of protection." See 169.

1,033.—**Le noir Bec.**—"The black point."

1,034.—**Le Souffleur.**—See 63.

1,035.—**Le creux à pigeons.**

1,036.—**La pointe de Convache.**—P. A Kel. word. "Dark, dull, shady, narrow spot," or "spot without any current of air." Br., *con*, with; *bac'h* = *vac'h*, without air.

1,037.—**Coupée Bay.**—The Coupée = the well-known isthmus connecting Great and Little Sark. The word is Kel. *Cou*, fine; *pée*, link.

LITTLE SARK.

1,038.—**La cave des lamentations.**—This cave takes its name from the extraordinary sounds that are heard in it under peculiar conditions of wind and tide.

1,039.—**La baie des Monts Razeur.**—B. "The bay of the intersected mounts." Br., *raza*, to trace in a straight line; *razeür*, to intersect.

1,040.—**La Moie Fannou.**—"The desired mount or rock." Br., *fan*, desire; Br., *bann* = *fann*, however, means "elevated."

1,041.—**La Moie du Pot.**—The name Pot is said to be derived from the funnel-shaped cavern in this locality.

1,042.—**La baie du Pot.**—B. See 1,041.

1,043.—**Le creux du Pot.**—See 1,041.

1,044.—**L'Avocat.**—P.

1,045.—**La Baleine.**—R. So called from its shape.

1,046.—**La Balnie.**—R. *Balnie*, a Kel. word, "the wicked one." Br., *falnie*.

1,047.—**Les boues de la Balnie.**—R. See 1,046.

1,048.—**Les Pignons.**—Br., *pigna*, *pignat*, to ascend to a certain height; Sp., *peña*, a rock. Both words are evidently der. from the Kel., *pen* or *penn*, head, summit.

1,049.—**Le rouge Terrié.**—Br., *terr*, rough; *terri*, broken, shattered.

1,050.—**La Moie de la Brenière.**—Undoubtedly a Kel. term, but susceptible of different meanings. Br., *bren*, *brenn*, king, chief; *bren*, mountain; *bren*, rush, a plant. "The giant or strong one." W., *bren*, supremacy: *brennig*, limpets.

1,051.—**Les Vingt Clos.**

1,052.—**La baie de la Brenière.**—See 1,050.

1,053.—**La baie du Clouet.**—B. Br., *cloüet*, *clôet*, barrier; W., *cloi*, to close, shut; com. Fr., *clore*. Or possibly "passage," "ford." Br., *glouet*, passage, ford.

1,054.—**The Bathing Place.**

1,055.—**La Pierre du Cours.**—R. As the name of this rock implies, it is a useful guide to vessels passing inside l'Etacq de Serk (1,057).

1,056.—**La demie du grand Carré.**—R. See 1,011.

1,057.—**L'Etacq.**—R. See 111.

1,058.—**La Quête d'Amont.**—R. "Upper or front passage." Br., *ket*, *keet*, from *këi*, to go; *gué*, passage.

1,059.—**Les blanches demies.**—R.

1,060.—**La boue aux Guernésiais.**—R.

1,061.—**La baie du plat rué.**—B.

1,062.—**Les boues du Clouet.**—R. See 1,053.

1,063.—**La pierre de Beurre.**—R. Perhaps *de Beurre* is a corruption of Br., *debri*, *dibriff*, lit. to eat; *de*, of; *briw*, fragments. "Rock of fragments." Com. Fr., *débris*. However, *beurre* in Br. signifies "pasturage."

1,064.—**La Bretagne Uset.**—R. A Kel. expression. "The hanging, variegated, or spotted rock," or "the high, broken rock." Both meanings are admissible. Br., *us*, *uz*, high, elevated; W., *uchel*, high; Br., *breta*, to break, crush; W., *briwo*, to break, crumble; Ir., *bruc*, to crush; Br., *breiz*, *bris*; W., *brith*, *braith*, pied, speckled; *brithog*, variegated, dappled; *britho*, to variegate; com. Heb., *barudh*, besprinkled, spotted.

1,065.—**La boue Tobie.**—R. Probably a Kel. word. W., *tob*, top, summit; *tobyn*, apex, summit.

1,066.—**Le Sercul.**—R. "Remote, distant part." Br., *cul*, backward; *kelc'hia*, to surround; *serra*, to close.

1,067.—**La demie du Sercul.**—R.

1,068.—**La boue Tirlipois.**—R. Br., *teürl*, to throw, cast; *poës*, weight; *tir*, ground; *lipoes*, to move. The word may mean "ground of muddy water."

1,069.—**La moie du Port Gorey.**—See 1,071.

1,070.—**La moie à charbon.**

1,071.—**Le Port Gorey** (ou Gouray).—B. Br., *gôr*, heat: W., *gwres*, heat; *gwresog*, hot. "Bay exposed to the heat." As it has a southern aspect the term is appropriate. Com. Heb., *gûr*, to ferment, to boil; Ar., *hharr*, hot.

1,072.—**La petite Baveuse.**—R. Fr., *baveuse*, blenny, a kind of fish; but in this case perhaps der. from Fr., *baver*, to foam.

1,073.—**Les Coursiers.**

1,074.—**La Saignie.**—B. A Kel. word. "Buried, hidden in a recess." Br., *sac'h, sac*; pl., *sec'hier*, recess, lit. sack, pocket; W., *sach*, sack; Ir., *sassif*, to stop, bar the way; com. Gr., *sakkos*; Heb., *sak*.

1,075.—**La pêche à agneaux.**—This expression may be corrupted. Br., *aien, aiennen;* Ar., *ain, ainn.* "Spring water"; perhaps running here into the sea. Com. W., *agenog*, full of clefts; *agenu*, to split, crack.

1,076.—**La moie de la Brétagne.**—See 1,064.

1,077.—**Le Piquillon.**—Kel. "The neighbouring point." Br., *pik*, neighbouring.

1,078.—**La baie des Fontaines.**—B. So called from a perennial spring.

1,079.—**Les hautes Boues.**—R.

1,080.—**La Moie des Fontaines.**

1,081.—**La grande Baveuse.**—R. See 1,072.

1,082.—**Le noir Creux.**

1,083.—**Le blanc Creux.**

1,084.—**La baie du Vermandé.**—B. "Bay that has become shorter," or "bay of the beautiful spot." Br., *ber;* W., *ber, byr*, short; Br., *ande*, end; *de*, good; *an*, place.

1,085.—**La pointe la Joue,** or le Jeu. } P. "The point of the snare." Br., *ico*, snare. See also 331.

1,086.—**La grande Grève.**—B. This bay is said to take its name from the great beach of fine white sand under the Coupée uniting Sark with Little Sark. See 959.

1,087.—**Coupée Bay,** W. side.—See 1,037.

GREAT SARK.

1,088.—**La Chapelle.**—See 558.

1,089.—**Les Epines.**

1,090.—**Le creux Cardin.**—"The hard hole." Br., *cart*.

1,091.—**Le Port es Sées** (or Essais).—B. "The bay of witches." Br., *sées*.

1,092.—**La demie du Port es Sées.**—R. See 1,091.

1,093.—**La Moie des Orgeris.**—"The mound of our rest." Br., *or*, our; *geris*, rest.

1,094.—**La cave Victor Hugo.**—This name was given to the cave by the great poet himself.

1,095.—**Le Platon du Nord-Ouest.**

1,096.—**La boue de la baie.**—R.

1,097.—**La boue du Pissot.**—See 13.

1,098.—**La longue Pointe.**—P.

1,099.—**Les Moitelles.**

1,100.—**La pierre du Norman.**—R. See 529.

1,101.—**La Lache Echelle.**—*Lache* no doubt means "dangerous." See 1,006. Br., *chal*, ebb tide.

1,102.—**Le Havre Gosselin.**—B. In the year 1567 the Manor of Beauregard in this neighbourhood was given to Nicholas Gosselin, from whom the bay is said to derive its name.

1,103.—**La Houle Genette.**—*Genette*, that appears or rises. See 445. *Houle*, otherwise called *pertu;* Dan., *hul;* Ger., *hœhle;* o. Norse, *hola*, cavity.

1,104.—**Le cotil Martin.**—Cl.

1,105.—**Les caves du Gouliot.**—See 1,109.

1,106.—**La pêche Natan.**—"Fearful or uncertain fishing." Br., *nat.*

1,107.—**Le petit Gouliot.**—See 1,109.

1,108.—**La Moie au Sieur Peter.**

1,109.—**Le grand Gouliot.**—*Gouliot* in the language of the Sarkese signifies "a sea-gull." Br., *goulou*, what is bright and clear, a characteristic of the bird. But the word here is no doubt der. from Br., *goulo*, *goullo*, empty; *goulôi*, to empty; W., *gweilydd*, empty, void. There is a similarity between Fr., *houlle*, and Br., *goullo;* com. Heb., *calal*, cleared. It is highly probable that the sea has in the course of time removed the soft material which formed part of the cliff between Sark and Brecqhou.

1,110.—**Brechou,** or Brecqhou. } I. **Ile des Marchands.** } I. Another Kel. term. "Having two wings or extremities." An appropriate term, as the island is thus formed. Br., *brec'h*, *braich*, arm, wing; W., *braich*, arm; com. Lat., *brachium;* Gr., *brachiôn*. According to an old Act of the Guernsey Court, a family named Le Marchant was once in possession of the islet. The late Rev. J. L. V. Cachemaille derives Brechou from the Gothic *Brican*, the breach, passage, or gap that the sea has broken through. "Island of the breach." See 1,130.

1,111.—**La Moie du Gouliot.**—See 1,109.

1,112.—**La pointe au Marinel.**—P.

1,113.—**La pointe Bélême.**—P. Br., *beclem*, pointed; W., *llymm*, sharp pointed.

1,114.—**La cave aux pirates.**—This part of Sark was undoubtedly at one time the home of smugglers who were half pirates.

1,115.—**La Ray.**—R. Br., *râe*, *râhe*, *rée*, *réa*, ray, skate. These words themselves are der. from *rac*, *raca*, to rub, to make a noise, on account of the thorny back of the fish. W., *rhaien*, skate.

1,116.—**La baie de la pointe à Fouille.**—B.

1,117.—**La pointe à Fouille.**—P.

1,118.—**La Touraille.**—R. "Pointed rock," or "rock formed like a tower." Br., *tour*, has this meaning. W., *twr*, tower; *twr*, heap, pile.

1,119.—**Le Cheval.**—R.

1,120.—**Les Dents.**—R.

1,121.—**Les demies des Dents.**—R.

1,122.—**La pointe du Port.**—P.

1,123.—**La baie du Port.**—B.

1,124.—**Le Cagnon.**—Br., *bag*, a boat; dim., *cag*.

1,125.—**Le creux à Caper.**—Perhaps "the goat's hole." Br., *gavr* = *kapr;* W., *gafr*, *geifr*, *geifrod*, goat; Lat., *caper;* Gr., *kapros*. However *gafr vor* in Br. signifies "a crayfish." Br., *cap*, head; *er*, rock.

1,126.—**Les grosses demies.**—R.

1,127.—**La moie de la Quane.**

1,128.—**Les Retrettes.**

1,129.—**Le Piquillon.**—R. See 1,077.

1,130.—**Les Moies de Givaude.**—R. A Kel. word. "The giver of sound," "making a noise." It is said that Evoda mentioned by Paulus Diaconus is Brecqhou *(Vega, Evoa, Gevoa)* formerly La Givaude, or Gevaude, the term being still retained in a neighbouring rock, and that from the same term we have the Gaulish term *Gevaudan*, *Givaudan*. Br., *evod*, *evon* or *evaud*, foamy. See 1,110.

1,131.—**Les demies de Givaude.**—R. See 1,130.

1,132.—**Le Nesté.**—R. Two meanings are admissible. Br., *nez*, nest; W., *nyth*, nest; Br., *nes*, *nested*, near to; W., *nes*, nearer; *nest*, what is compact or close; *nestig*, compact; Ger., *nechste*, *nahe*, neighbouring, near.

1,133.—**Les boues du Nesté.**—R. See 1,132.

1,134.—**La Moie Batarde.**—R. "The difformed mound." Br., *bastard*, irregular.

1,135.—**Le creux es vaches.**

1,136.—**Le Rocher Dève.**—R. Br., *dêvi*, to burn; W., *deifio*, to burn, singe; com. Ir., *dô*, *dôi*; Gr., *daiein*; N. Fr., *havi*, to burn.

1,137.—**Le Creux du Va.**—Undoubtedly Kel. Br., *va*, my, mine. This view being taken, the expression means "my hole." On the other hand, "du Va" may be a corruption of *tuvat* = *duvat*. In the latter case, "du Vat" = lit. staves, and the meaning of the expression is "hole formed like a barrel or needle-case." Another meaning is, perhaps, admissible. Br., *tuf*, *tuv*, rock that crumbles into dust.

1,138.—**Les boues du poisson.**—R.

1,139.—**La haute pêche.**
1,111-1,139 lie in the neighbourhood of Brecqhou.

1,140.—**La boue du Gouliot.**—R. See 1,109.

1,141.—**Le Galet de Jacob.**

1,142.—**Le Creux à cormorans.**

1,143.—**Le Saujouin.**—Called in some Guide Books "Sault de San Jehan or Juan," St. John's leap. I incline nevertheless to a Kel. derivation. Br., *sau*, *so*, high; *eon* = *jeon*, foam; *eôna*, to foam; W., *ewyn*, foam; *ewynnu*, to foam; *ewyngant*, surge on a beach. The meaning seems to be "high foam."

1,144.—**Le Creux à Mèche.**—"The breaker." Br., *mec'ha*.

1,145.—**Le creux à Bénarde.**—Perhaps "the cavity of the cut stone." Br., *bêna*, to hew stones, to cut; W., *benaf*, to cut. On the other hand, *benn*, *penn*, head; *arde*, hard. "The hard stone or head."

1,146.—**La petite Moie Mouton,** or du Mouton. } See 1,147.

1,147.—**La grosse Moie Mouton.**—In former times sheep used to graze on this rock. Hence the name.

1,148.—**Les boues de la Moie Mouton.**

1,149.—**La cave de la Moie Mouton.**

1,150.—**Le port à la Jument.**—B.

1,151.—**La terre au Sieu.**—No doubt corrupted from some Kel. term. Br., *tarz*, cleft, opening; com. Ch., *tarad*, to force out with violence.

1,152.—**Les Péganne.**—B.R. A Kel. word. "Rocks connected together, or among which it is difficult to get through." Br., *pêg*, to adhere, cleave, join; com. W., *pyg*, pitch; Lat., *pix*; Gr., *pego*, *pêgnumi*, to stick or fix in, make firm or fast in; Heb., *pagah*, to join; San., *pac*, to bind; Lat., *pango*, to fasten. See 547, 748.

1,153.—**Le Tintajeu.**—Another Kel. term. "Rocks placed or lying on one another." Br., *tinta*, to place on a height in a position to fall.

1,154.—**La Platte.**—R. "The flat rock."

1,155.—**Les Epiceresses.**—R.

1,156.—**Le Port du Moulin.**—B. This bay owes its name to the mill which formerly existed above.

1,157.—**Les Autelets.**—R. "Consecrated rocks."

1,158.—**La Saignie** (or Seignie).—B. See 1,074. An appropriate term, the bay being shaped like a semi-creux or hole.

1,159.—**La Banque à la Vieille.**—Perhaps "the rest of the hollow or empty place."

1,160.—**La Foureuse.**—Possibly "the hollow rock."

1,161.—**Le Vané.**—"Its habitation." Br., *van ; manet*, to inhabit, remain.

1,162.—**Le Creux du Platon,** No. 1.

1,163.—**La moie à chats.**

1,164.—**Les sept Moies.**

1,165.—**La Guillaumesse.**—R. A Kel. term giving an idea of firmness or solidity. The lit. meaning seems to be "hard am I." Br., *guell*, hard.

1,166.—**La boue à chats.**—R.

1,167.—**La baie du Platon.**—B.

1,168.—**Le Platon.**

1,169.—**Le Creux du Platon,** No. 2.

1,170.—**La pointe Cagnon.**—P. See 1,124.

1,171.—**La Pêche Colin.**—"Dangerous fishing." Br., *koll*, to be in danger ; W., *coll*, *colled*, loss ; com. Ir., *galluint*, to spoil ; Heb., *kalad*, to lose, fail, consume.

1,172.—**Les caves des Boutiques.**—These caves are said to derive their name from the fact that in olden times they were used by smugglers as stores.

1,173.—**La Bertaude.**—Kel. "The difformed one." Br. and W., *ber*, *berr*, short ; Br., *berteaut*, lit. stammerer.

1,174.—**Le Pertu.**—See 1,103.

1,175.—**Les Grunes.**—R. See 105.

1,176.—**Les boues des Grunes.**—R.

1,177.—**La Corbée du Nez.**—R. "The difformed one," lit. "the humped-back one." Br., *côr*, small ; W., *cor*, small, dwarf ; Br., *corf*, body, substance ; *bée*, rounded, bent, crooked ; com. Fr., *courber*.

1,178.—**La pointe du Nez.** / **Bec du Nez.** } P.R. See 43.

1,179.—**Le Caboté.**—R. "The tottering one." Br., *cabot*.

1,180.—**La demie.**—R.

1,181.—**Le Moulinet.**—R. See 6.

1,182.—**Le Jolicot.**—R. Br., *jolis coant*, beautiful ; com. W., *ioli*, to praise.

1,183.—**La Sardière.**—R. N. Fr., *sarde*, a kind of bream well known in Sark.

1,184.—**La boue Criquet.**—R.

1,185.—**La Pêcheresse.**—R. See 165.

1,186.—**La grande boue.**—R.

1,187.—**La Congreyerre.**—Perhaps der. from Fr., *congre*, conger-eel.

1,188.—**La charrière Brâton.**—Cl. "The steep cliff." Dan., *brat*, steep ; com. Lat., *abruptus ;* Fr., *abrupt*.

1,189.—**La baie sous Lu** (or Lus).—B. The meaning is uncertain. *Lus*, peaceful, also door, entrance.

1,190.—**Les Eperqueries.**—B. According to some guide books the name is said to be der. from o. Fr., *perque ;* Fr., *perches*, it being the custom to dry fish on perches or poles. The word, however, may have a Kel. origin. "Passage, ford."

1,191.—**La fosse Vaudin.** Vaudin is a Sark family name.

1,192.—**La Moie de Telle.**

1,193.—**Le Pignon.**—See 1,048.

1,194.—**La boue du Pignon.**—R.

1,195.—**La pointe Bruge.**—R. Perhaps der. from Br., *brug*, *bruc*, heather; com. Fr., *bruyère;* l. Lat., *brudrium*, *bruera*.

1,196.—**La baie des Fontaines.**—B.

1,197.—**Le creux Bélêts.**—"The distant hole." Br., *bell*, *pell*, distant. Comparative, *belloc'h*, *bellcoch*, *bellhaf*, to be distant; W., *pell*, *pelennig*, distant.

1,198.—**Le Saleux.**

1,199.—**Le grand Creux.**

1,200.—**La demie au Couteur.**—R. This word seems to embody the idea of thrusting or beating back. It may signify, "repulsive, forbidding."

1,201.—**La Foureuse.**—See 1,160.

1,202.—**Le Creuset.**

1,203.—**L'Huitrière.**—R. "Oyster rock."

1,204.—**La pointe de l'Huitrière.**

1,205.—**La boue de l'Huitrière.**—R. See 1,203.

1,206.—**Le creux à Chaut.**

1,207.—**La boue Bralée.**—R. "The moving or tottering rock." Br., *bralla*, to shake violently.

1,208.—**Le Banquet.**—See 156.

1,209.—**Le creux à chiens.**

1,210.—**La Fosse.**

1,211.—**La Quârée.**—Br., *karrea*, to make square; com. W., *ysgwâr*, *ewar*, square.

1,212.—**La Grève Michelle.**—"The inlet of the battle." Br., *mie'hela*. See 1,252.

1,213.—**La Roqui.**—R. Br., *roc'h*, rock.

1,214.—**La Grève de la Ville.**—B. The village above is called "La Ville." It consists of a small hamlet or group of cottages.

1,215.—**La Chapelle es Mauves.**—R. "The gulls' chapel." This is a large arched rock situated in "Grève de la Ville."

1,216.—**Le cotil du buisson.**

1,217.—**La blanche boue.**—R.

1,218.—**La Moie Navets.**

1,219.—**Les boues Hamon.**—R. Hamon is a Sark family name. In Br. it means "jealousy."

1,220.—**La noire Pierre.**

1,221.—**La Pavlaison.**—R. Br., *pav*, *paf*, *pâu*, foot; *pavalee*, having feet; com. Heb., *paham*, foot; Br., *on* = water. "The foot enlarged in the water." "To rest the foot in the water."

1,222.—**Le Bec.**—R. "The pointed rock."

1,223.—**La petite Moie.**—See 100, 204.

1,224.—**La Gorge.**—R.

1,225.—**La demie au Bro.**—R. Br., *bro;* W., *bro*, country. "The half tide rock of the country."

1,226.—**La boue Cristin.**—R. "The middle sunken rock." Br., *cres*, *creiz*, middle.

1,227.—**Le Dos d'âne.**—R. See 665.

1,228.—**La boue Jacob.**—R.

1,229.—**La platte Boue.**—R. See 99.

1,230.—**La Grune du Nord.**—R. See 105.

1,231.—**La boue de la Grune du Nord.**—R. See 105.

1,232.—**Le Grunot.**—R. No doubt dim. of *grune*. See 105.

1,233.—**La boue du Founet.**—R. See 563.

1,234.—**Le Founet.**—R. See 563.

1,235.—**La boue à chiens.**—R.

1,236.—**La Grande Moie.**—See 100, 204.

1,237.—**La Quanne** (Canne).—R.

1,238.—**Le Piquillon.**—See 1,077, 1,129.

1,239.—**La Mer de la Moie.**—R.

1,240.—**Le Parquet.**—Possibly "large spot." Br., *guet*, place; *parc*, large.

1,241.—**Le Moi de Reux.**—R. Undoubtedly a corrupted expression. Br., *dehrou*, *dezrou;* W., *dechreu*, *dechre*, commencement, origin, to begin; Br., *dergheieu*, steps; Br., *reüs*, confusion, noise; com. W., *rhawd*, crowd; Br., *reüz*, fatal accident.

1,242.—**Le Bedan Robert.**—"Robert's place or spot." Dangerous, prohibited, or privileged spot; patois of Gasgony, *bedat*, prohibited; com. Sp., *vedar*, to prohibit.

1,243.—**Les Abimes.**

1,244.—**La Rai.**—R. See 1,115.

1,245.—**Le Creux à chiens.**

1,246.—**Le bas Crévé.**—"Broken, shattered rock."

1,247.—**La Grève de la Vallette.**—B.

1,248.—**La Moie Richard.**

1,249.—**La Masseline.**—See 757.

1,250.—**La Porte Toussaint.**

1,251.—**La Saignie.**—B. See 1,074.

1,252.—**La Chaussée Chenchannée.**—"The pier of the battle." Br., *henc'ha*. Mr. Cachemaille calls this "La Chaussée Saint Chéné."

1,253.—**Le petit Goulet.**—"Narrow neck or pass."

1,254.—**La pierre du Goulet.**—R. See 1,253.

1,255.—**La boue du Cook.**—R.

1,256.—**La pointe Cagnon.**—P. See 1,124.

1,257.—**Les Bûrons.**—"Consecrated rocks."

Prov. "La grande Anfroque par les Bûrons,
Les bouteilles sans bouchons."

Trans. "When the grand Anfroque (a rock N.E. of Herm), is in a straight line with the Bûrons, it is time to uncork the bottles.

This was an old song of the Guernsey sailors when they sailed for France.

1,258.—**La boue Jean Du Feu.**—R.

1,259.—**La demie des Bûrons.**—R.

1,260.—**Le petit Huart.**—R. Kel. "Heap or mass of sand." *Hua*, obstacle; *hual*, snare.

1,261.—**Le grand Huart.**—R. See 1,260.

1,262.—**L'Ecrilias.**—R. "Shattered or broken." Br., *grilia*, to shatter, break.

1,263.—**La tête de la Noire Pierre.**—R.

1,264.—**La tête de Blanchard.**—R. "White rock."
1,265.—**La platte Grune.**—R. See 105.
1,266.—**Les Auquets.**—R. See 282.
1,267.—**La pierre des Bûrons.**—R. See 1,257.
1,268.—**Le Car** (or quard?) **des Bûrons.**—"Narrow passage."
1,269.—**La Cheminée des Bûrons.**—R.
1,270.—**Le Quard du Goulet.**—See 1,268.

ERRATUM.

748.—Instead of Le Pequeries, read Les Pêqueries.

506.42

GUERNSEY

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TRANSACTIONS OF THE SOCIETY.

Monthly Meeting held on January 18th, 1899, Mr. W. A. Luff, President, in the chair.

Mr. W. A. Luff exhibited a photo of the animal recently caught at Moulin Huet Bay and stated in the newspapers to be a young whale. Mr. Collenette stated that the animal was, however, a dolphin, known as Risso's Dolphin, three specimens of which have been caught near the island in recent years.

Mr. W. A. Luff also exhibited incrustations on poplar twigs found in his garden, consisting of the dead bodies of aphides closely adjoining (probably *Aphis salicis*), and Mr. Buckton, F.Z.S., says that these incrustations are very remarkable, and the more so as every individual aphis has been tenanted by the grub and imago of an aphidous hymenopterous insect which has cut its exit out of the back of the aphis. These exits were clearly visible as perfectly circular holes, the pieces cut out in some cases remaining unbroken on the twigs. Mr. Luff also exhibited a mass of silk containing cocoons of a species of *Braconidæ*, a hymenopterous parasite, on larvæ of various butterflies and moths. As many as 1,200 specimens have been reared from a single lepidopterous larva.

Mr. A. Collenette read his papers on Rain and Sunshine in Guernsey in 1898, and a discussion thereon took place.

Monthly Meeting held on February 15th, 1899, Mr. W. A. Luff, President, in the chair.

The minutes of last meeting having been read and signed, the Hon. Secretary announced the receipt of

"The Forestry Conditions of Northern Wisconsin,"

and

"On the Instincts and Habits of the Solitary Wasps,"

both from the Wisconsin Geological and Natural History Survey.

"Proceedings of the Academy of Natural Sciences of Philadelphia, 1898.—Part II.,

from the Society.

Mr. W. A. Luff read a letter from Dr. F. O. Pickard-Cambridge on the Black Rat (*Mus rattus*), which still exists plentifully in Sark and occasionally in Herm and Alderney. A discussion followed.

Monthly Meeting held on March 15th, 1899, Mr. W. A. Luff, President, in the chair.

The Secretary reported the receipt of

a. The Transactions of the Wisconsin Academy of Sciences, Arts and Letters, Vol. XI., 1896-97.

b. Annual Report of the Smithsonian Institution for 1896.

Mr. J. S. Hocart exhibited vertebræ of Red Deer found in Vazon Bay peat after the late storm.

Mr. E. Ch. Ozanne exhibited specimens of peat fuel, prepared by being passed under enormous pressure through cylinders—a Canadian process.

A letter from Mr. Andrews, of St. John's College, Battersea, describing several caves noticed by him on the south coast of the island, was read.

Mr. Collenette exhibited a number of slides of extinct animals.

Monthly Meeting held on April 19th, 1899, Mr. W. A. Luff, President, in the chair.

The Hon. Secretary announced the receipt of

1. Principal Poisonous Plants of U.S.A., by V. K. Chesnut, from U.S. Department of Agriculture.
2. The Proceedings of the Academy of Natural Sciences of Philadelphia, 1898.—Part III.

Mr. T. C. Royle exhibited a specimen of *Helianthemum polyfolium* from Brean Down.

Mr. W. A. Luff announced that the larvæ of the Glanville Fritillary are abundant.

He also read an extremely interesting account of the *Ammophila* (one of the Solitary Wasps) and her caterpillars from a paper on "The Instincts and Habits of the Solitary Wasps," by G. W. and E. G. Peckham.

Monthly Meeting held on May 17th, 1899, Mr. W. A. Luff, President, in the chair.

Rev. J. B. Penfold was proposed for election.

Mr. Le Lacheur exhibited a specimen of the Carnivorous Slug (*Testacella scutulum*) found at St. Andrew's.

Mr. Luff exhibited the larva of the Drinker Moth (*Odonestis potatoria*), found for the first time in Alderney by Mr. E. D. Marquand.

Mr. Royle exhibited a number of dried specimens of *Rubi*, collected by Rev. Moyle Rogers during his visit to the Bailiwick of Guernsey in 1897.

The Hon. Secretary read a paper on "Cup and Ring," by Mr. Andrew Lang, which appeared in the *Contemporary Review* for March, 1899. A short discussion followed.

Monthly Meeting held on June 21st, 1899, Mr. W. A. Luff, President, in the chair.

After the reading and signing of the minutes of last meeting, Rev. J. B. Penfold was unanimously elected a member, and Mr. D. B. Cromartie, Neuve Maison, Rouvêts, St. Saviour's, was proposed by Mr. J. J. Carey and seconded by Mr. A. Collenette.

Mr. Royle exhibited specimens of *Orobanche arenaria*, Linn., found abundantly in Alderney—the only place in the British Isles.

Mr. J. L. Pitts exhibited a list of Egyptian words, with a transliteration, with Guernsey equivalents as place and person names with their meaning. This was supplied by Miss Murray.

Mr. Luff exhibited Alderney specimens of *Satyrus semele*, both male and female of which show variation of markings; also of *Necrophorus mortuorum*, also *Hoplia philanthus*, a small Chaffer Beetle not found in Guernsey.

Mr. A. Collenette gave some interesting details about the rocks of Alderney.

Monthly Meeting held on July 19th, 1899, Mr. W. A. Luff, President, in the chair.

Mr. D. B. Cromartie, Neuve Maison, Rouvêts, was unanimously elected a member.

Mr. W. J. Picot, Alderney, was proposed for election by Mr. Pitts and seconded by Mr. Derrick.

Miss G. Royle exhibited a fine example of Guernsey grown silk.

Mr. Luff exhibited a specimen of the Stag Beetle (*Lucanus cervus*) from Guernsey, also a Dragon Fly (*Libellula*), found in Alderney by Mr. E. D. Marquand.

Mr. Luff then read the following notes :—

"I have great pleasure in recording the addition of a non-British species of Diptera to the Guernsey list :—*Masicera ferruginea ;* it was kindly determined and named by Dr. Mead, of Bradford.

"I have this season been able to assist in working out the life history of a curious little moth, named by Mr. Tutt, *Luffia lapidella.* In the second volume of Mr. Tutt's work on the British Lepidoptera a full description will be given of the egg, larva, pupa, and perfect insect ; also of a species of Ichneumon Fly, bred from the larva, from Guernsey specimens. The larva lives on lichens on old walls, principally on *Lecidea canescens*, it also feeds on the bright green alga, *Pleurococcus vulgaris*, so abundant on shaded damp walls. In the perfect state the female is quite wingless, and clings to the outside of the larvæ case, never leaving it. It has a very long ovipositor, with which I have noticed it depositing its eggs inside the old larva case. The male is a very active winged moth.

"I have to record the first occurrence of the Stag Beetle, *Lucanus cervus*, in Guernsey. This specimen was captured near the Bouët on June 28th, and brought by its captor to Mr. Collenette. It is a male, and as it had been put into a bottle that had contained paraffin, it did not long survive. In a letter from the late Dr. F. C. Lukis to William Yarrell, published in "Rambles among the Channel Islands by a Naturalist," he mentions, amongst other insects, the total absence of *Lucanus cervus* from Guernsey.

"I received a Dragon Fly from Mr. E. D. Marquand, captured in Alderney last week. It is most likely *Libellula striolatum.** Mr. Marquand saw several other specimens. This is the first record of the capture of any Dragon Fly in Alderney. The Rev. F. A. Walker saw a specimen, but did not capture it.

"I have succeeded in procuring living specimens of the *Aphis*, mentioned in the January meeting as found incrusted on poplar twigs. Mr. Buckton, F.Z.S., pronounces these to be *Cladobius populeas*, Koch, a species not well known in England, but found on the continent."

Monthly Meeting held on September 20th, 1899, Mr. W. A. Luff, President, in the chair.

Mr. W. J. Picot, Alderney, was unanimously elected a member.

* Since ascertained to be *Sympetrum fonscolombi*, Selys, a very rare British species.—W. A. L.

The Hon. Secretary announced the receipt of

1. Proceedings of the Academy of Natural Sciences of Philadelphia, Part I., 1899.
2. Some Hydroids from Puget Sound.
3. Moniloporidæ, a new family of Paleozoic Corals.
4. Studies in the Gold-bearing Slates of Nova Scotia.
5. North American Wood Frogs.

Mr. Derrick recorded another station for Lesser Dodder in Sark.

Mr. Luff recorded the capture of two specimens of *Cassida equestris*, one of the Tortoise Beetles, very local in England. These were taken on wild mint near Bon Repos, on August 17th. They are new to the Guernsey list.

Pœcilosoma luteolum, one of the Saw Flies. This is its first recorded capture for Guernsey. It was taken near Doyle's Monument last year.

Timarcha tenebricosa, taken by Mr. E. D. Marquand in Alderney. This is a very interesting capture, as, although it is one of the commonest beetles in the south of England, it has not hitherto been found in any of the Channel Islands.

Liparis salicis, the Satin Moth, was found by Mr. Marquand in Alderney. It has not been recorded for Guernsey.

Mr. Collenette referred to two caves at Bon Repos which would be worth excavating in search for remains of human habitations.

Rev. F. E. Lowe, M.A., read a most interesting paper on *Lampides bœtica*.

Mr. Collenette noted that the specimen of Risso's Dolphin, captured on 8th January last, had been preserved and is in the Museum.

Mr. Luff read notes from Mr. Burr's paper in the *Entomologist's Record* on "The Orthoptera of the Channel Isles."

Monthly Meeting held on October 18th, 1899, Mr. W. A. Luff, President, in the chair.

The minutes of last meeting having been read and signed,

The Secretary reported having received a copy of the "Proceedings of the Holmesdale Natural History Club for 1896-1898."

Mr. H. C. Le Lacheur exhibited a specimen of the fungus (*Daedalia quercina*), found on the oak.

Mr. C. G. De La Mare exhibited a piece of diorite, possibly a spear-head, found at Pleinmont, near Imperial Hotel, also

an oyster shell found at Vrangue Brickfield, at the base of the stratified deposits, 8 feet in thickness, and immediately above the decomposed rock.

Mr. Luff exhibited specimens of Bees found in Alderney by Mr. E. D. Marquand, who has during the summer collected 71 species, 62 being additions to the list. These include *Bombus Smithianus*, *Cœlioxys rufescens*, *C. vectis*, *Epeolus productus*, *Andrena flessæ*, and *Mutilla rufipes*, a species with a curious wingless female, which seems a connecting link between the ants and bees and wasps.

Monthly Meeting held on November 22nd, 1899, Mr. W. A. Luff, President, in the chair.

After the reading and signing of the minutes, Mr. F. A. Holiday, St. Julian's Cottage, was proposed for election.

Mr. Domaille reported that he found within a perfectly sound cucumber one of the seeds had germinated, and the young plant bore three quite *green* leaves.

A photograph of a thrush and nest, the latter built on the scaffolding of a building in course of erection was sent for exhibition by Mr. Philip Nicolle.

Mr. Luff read a short paper by Mr. F. O. Pickard-Cambridge on "The Spiders of Alderney," caught during the summer by Mr. E. D. Marquand.

Mr. Luff exhibited a specimen of the large Burying Beetle (*Necrophorus germanica*), found in Alderney by Mr. Marquand. This species is extremely rare in Britain. Also a rare Saw Fly (*Sirex juvencus*), found in Guernsey for the second time.

Sixteenth Annual Meeting of the Society held on December 21st, 1899, Mr. W. A. Luff, President, in the chair.

The formal business over, Mr. F. A. Holiday was unanimously elected a member of the Society.

The following birds were shot in the island on the dates named (these specimens are added to the Museum):—Kingfisher (October 28); Common Night Jar, Common Heron, Barn Owl, Gannet (November 2); Butcher Bird (summer), one pair Coots, do. Lapwings. do. Teal, Tufted Duck, Grey Lag Goose (December 16); pair Woodcocks, Yellow Wagtail (December 19).

Papers were read on "Sunshine and Rainfall in Guernsey during 1899," by Mr. A. Collenette; "The Flora of Alderney," by Mr. E. D. Marquand; "The Insects of Alderney,"

by Mr. W. A. Luff; "On some Guernsey Caves," by Mr. Cecil R. P. Andrews, M.A.

The Hon. Secretary (Mr. W. Sharp) then read the following report of the Council :—

SIXTEENTH ANNUAL REPORT OF THE SOCIETY.

Ladies and Gentlemen,

Generally speaking the past year has been an uneventful one in the history of the Society. The chief feature of the year is the splendid and successful work of collecting carried on in Alderney by your ex-President, Mr. E. D. Marquand, who, taking advantage of a lengthened stay in that island, has thoroughly worked that hitherto almost neglected part of the bailiwick. The results of his labours are given in detail in his paper on "The Flora of Alderney," and in the report of the Entomological Secretary.

Eleven meetings have been held during the year, with a rather small attendance of members.

But three excursions have been made, viz. : To Alderney, Bon Repos, and to Richmond.

Four additions have been made to the list of members, which now stands at 93.

The heavy drain on the finances of the Society made by the publication of the *Transactions* year by year, makes it necessary that the number of members should keep up if this important record of the Society's work is to be continued.

The following publications have been received during the year, and the Council takes this opportunity of thanking the learned societies furnishing them :—

a. The Forestry Conditions of Northern Wisconsin.
b. On the Instincts and Habits of Solitary Wasps.
c. Proceedings of the Academy of Natural Sciences, Philadelphia, 1898, Parts II. and III.
d. Annual Report of the Smithsonian Institution, 1896.
e. The Transactions of the Wisconsin Academy of Science, Arts and Letters, Vol. XI.
f. Principal Poisonous Plants of U.S.A., by V. K. Chesnut.
g. Proceedings of Academy of Natural Science, Philadelphia, 1899, Part I.
h. Some Hydroids from Puget Sound.
k. Moniloporidæ, a new family of Paleozoic Corals.
l. Studies in the Gold Bearing Slates of Nova Scotia.
m. North American Wood Frogs.
n. Proceedings of the Holmesdale Natural History Club, 1896-98.

The following papers have been read :—

a. "On Lampides Bœtica," by Rev. F. E. Lowe, M.A., F.E.S.

b. "The Spiders of Alderney," by Mr. F. O. Pickard-Cambridge, B.A.

c. "Sunshine and Rain in Guernsey for 1899," by Mr. A. Collenette, F.C.S.

d. "The Flora of Alderney," by Mr. E. D. Marquand.

e. "The Insects of Alderney," by Mr. W. A. Luff.

f. "Some Guernsey Caves," by Cecil R. P. Andrews, M.A.

Much as has been done by energetic workers of this Society, much remains to be done, for while the terrestrial fauna and flora have been carefully worked and recorded, the countless varied and interesting treasures of the sea surrounding us are almost untouched.

To the authorities of the Guille-Allès Library this Society owes a deep debt of gratitude for the use of its rooms and excellent Reference Library, and your Council gladly embraces this opportunity of gratefully acknowledging it.

W. Sharp, Hon. Sec.

The Report of the Botanical Section was then read by Mr. G. Derrick; that of the Entomological Section by Mr. W. A. Luff; and that of the Geological Section by Mr. A. Collenette, in the absence of the Secretary, Mr. C. G. De La Mare.

The election of officers and committee was proceeded with, resulting as follows :—Hon. Secretary : Mr. W. Sharp ; Hon. Treasurer : Mr. W. A. Luff; Council : Gen. Harvey, Messrs. J. L. Pitts, C. G. De La Mare, E. Charles Ozanne, J. S. Hocart, J. Le M. Bougourd.

REPORT OF THE BOTANICAL SECTION.

The Section has suffered once more from the loss of the most efficient of its members ; the active secretary, Mr. T. Royle has ceased to reside in the island, and our numbers are so seriously reduced that we should be very pleased to receive a few zealous young recruits.

No additions have been made to the island flora, but specimens of two of our rarest plants have been exhibited by Mr. H. Le Lacheur, of the Norgeots, who found them near one another in St. Saviour's.

One of them, *Datura stramonium* (Thorn-apple) has been previously recorded from near L'Ancresse Lodge and St. Saviour's valley. The other *Centaurea calcitrapa* (common

star-thistle) has been obtained from near the Vale Castle and the Lower Rohais; Mr. Le Lacheur has thus established a new station for each of these plants, and we are led to the conclusion that both of them may occasionally occur in any district.

In connection with the Flora of Sark, I have to acknowledge an error in the original list (1896). Feeling doubtful about the plant of *Senebiera* still flourishing near the Creux tunnel, I submitted specimens of it to Mr. Royle, who finds it to be *S. coronopus*, which must therefore replace *S. didymus* in the list. It is curious that *S. didymus*, which is one of the commonest weeds in Guernsey, has not yet been observed in Sark.

The additions to the Sark list this year are:—

Cardamine flexuosa, *With.* Wavy-stemmed bitter-cress.
Cuscuta epithymum, *Murr.* Lesser dodder.
Thlaspi arvense, *L.* Penny cress.
Anagallis cœrulea, *Schreb.* Blue pimpernel.

Cardamine flexuosa occurs by the stream side at La Moinerie, and in other places.

Cuscuta was reported last year, but no specimen shown. In September, Mr. Jackson, a gentleman who has resided some years in Sark, reported it in a field near Clos Buret, where I found it growing on young plants of furze; the old weather-beaten bushes close by were quite free from it.

In June I found a specimen of *Thlaspi arvense* growing in a cultivated field in Little Sark. This plant is not included in Babington from Sark or Guernsey. I found it in two stations near Mount Row in 1893, and it has since then occurred in nearly every part of Guernsey, so that it may be considered well-established there, and has probably spread from it into the smaller island.

Anagallis cerulea is occasionally seen in Guernsey, was fairly abundant in Jethou, and in September Mr. Jackson sent me a plant of it from near Dixcart Hotel, Sark.

The only important work carried out this year in connection with this section is the gratifying result of the indefatigable exertions of our worthy ex-President, Mr. E. Marquand, who having taken up his residence in Alderney, has shown that that island contains a flora more extensive and varied in proportion to its size than any other of the Channel Islands. He has most kindly placed the results of his researches at the disposal of the Society.

G. Derrick, Sec. Bot. Sec.

REPORT OF THE ENTOMOLOGICAL SECTION.

The past season has been a most interesting one as far as entomology has been concerned.

Amongst Butterflies, *Pyrameis cardui*, the Painted Lady, *Pyrameis atalanta*, the Red Admiral, and *Lycœna argiolus*, the Holly Blue, have been unusually abundant during the autumn; but the butterfly of the year has been *Lampides Bœtica*, the Long-tailed Blue. More than one hundred specimens of this species were taken in Guernsey and Sark during September, most of them by Rev. F. E. Lowe. It was last recorded in the report for 1892, when Rev. F. E. Lowe took a single specimen. Previous records were in 1889, when Mr. Spencer, jun., took one near Fort George; one in 1872, taken by the late Miss L. Renouf in her garden, Burnt Lane; and eight specimens captured by the same lady in 1859, also in her garden. In connection with these last mentioned captures, the following notes, published in the *Entomologist's Annual* for 1860, by the late Mr. H. T. Stainton, will be interesting: "Another hot summer (1859), in immediate succession to the two previous unusually hot summers, has again tended to swell our lists with species usually confined to the south of Europe.

"The occurrence of a specimen of *Lampides Bœtica* on the chalk downs in Sussex, has naturally created a considerable sensation. We, however, see nothing very alarming in this descent of a foreigner on our own coasts, and we fortunately had an opportunity of anticipating the probability of such an occurrence. A correspondent, located almost within sight of Cherbourg, had written to narrate the appearance in 1859 of a butterfly not seen in Guernsey for about twenty years, and this insect, which showed a partiality for a bed of parsnips, proved to be *Polyommatus* (*Lampides*) *Bœtica*. Subsequently a correspondent in Madeira gave the interesting information that the larva feeds in the pods of peas; probably the parsnip bed at Guernsey bordered a row of peas."

It is interesting to note that although so abundant in the Channel Islands this year, I can only find two records of its capture in England, one at Winchester on September 1st, and one at Deal on the 16th of the same month. A valuable and interesting paper on the distribution of this species, which was read before the Society at the October meeting by the Rev. F. E. Lowe, will be found in the *Transactions*.

The Humming Bird Hawk Moth, *Macroglossa stellatarum*, has been abundant in all the islands, and from numerous

records in the entomological journals it appears to have been equally abundant in England.

The Rev. F. E. Lowe reports the capture of a specimen of *Chœrocampa celerio*, the Silver Striped Hawk Moth, by Miss Bell, of La Rocquette, in a greenhouse in September, 1898. The only other record we have of the occurrence of this rare and beautiful moth in Guernsey is that of two specimens bred by Mrs. Boley from larvæ found on a vine. These specimens are now in the Guille-Allès Museum.

The Death's Head Hawk Moth, *Acherontia atropos*, has been very abundant both in its larval and perfect state.

Callimorpha hera, the Guernsey Tiger Moth, has also been very common, and several specimens of the variety *lutescens* have been taken.

The Rev. F. E. Lowe has again bred specimens of the variety of *Dianthœcia luteago* named *Lowei*.

Mr. Baker has bred some fine specimens of *Dianthœcia capsophila* from larvæ found on *Silene maritima*. There had been only one previous record of this species from Guernsey.

The life history of a curious little moth, whose larva resides in cone-shaped cases made from the lichen on which it feeds, has just been thoroughly worked out by Mr. Tutt, F.E.S., assisted by Dr. Chapman, M.D., F.Z.S., and several other eminent entomologists, from Guernsey specimens and notes. Mr. Tutt has named this species *Luffia lapidella*.

In the *Entomologist's Monthly Magazine* for November the Rev. E. R. Bankes, M.A., F.E.S., records the finding of cases of this species on the stone pillars at Stonehenge, and says :—"In June, 1885, cases were found by the Rev. C. R. Digby and myself on rocks and stones on the Purbeck coast. Shortly afterwards we found the cases on rocks at Portland, but having never bred the male imago from any cases collected, we did not attempt to work out the identity of the insect, which, thanks to Mr. Tutt, has now been satisfactorily established. Mr. Luff has met with the species plentifully in Guernsey, and both sexes have recently been bred from cases collected by him there (vide Ent. Rec., l. c.).

"*Lapidella* has been included by recent authors in the genus *Talœporia*, but Mr. Tutt has just announced, in Ent. Rec., xi., 191 (1899), that it is wrongly placed there, and that he intends, in his next volume of the "British Lepidoptera," to describe a new genus under the name of "*Luffia*" for it. I have, therefore, adopted his proposed generic name, although no definition of the genus has yet been published."

A grand addition to our *Coleoptera* or Beetles is *Lucanus cervus*, the Stag Beetle, a specimen of which was brought to Mr. A. Collenette alive on June 28th.

During the Society's excursion to Bon Repos on August 17th I found several specimens of a fine green *Cassida*, or Tortoise Beetle, *Cassida equestris*, on wild mint.

One specimen of a Dipterous insect, *Masicera ferruginea*, Mgn., which is not on the British list, has been captured in Guernsey.

During the present year (1899) our late President, Mr. E. D. Marquand, has taken up his residence in Alderney, for the purpose of studying the flora of that island.

He has also, with the assistance of his brother, Mr. E. P. Marquand, been most assiduous in collecting insects of all orders, the result showing that Alderney is much richer in insect life than was at first supposed, especially in the order *Hymenoptera*. No less than 307 additions to the list published in 1897 have been made.

Mr. Fred. O. Pickard-Cambridge, B.A., has written a note, for our *Transactions*, on "The *Araneidea*, or Spiders of the Channel Islands," to which he appends a list of twenty-two species taken by Mr. Marquand in Alderney.

ADDITIONS TO THE LIST OF THE MICRO-LEPIDOPTERA OF GUERNSEY.

Pyrodes rheediella, *Clerck, L.* One specimen taken on May 14th at Fermain Bay.

Simæthis oxycanthella, *L.* Twe specimens taken at Perelle in June.

Luffia lapidella, *Tutt.* This species was named *Fumea ? lapidicella*, Zell., in the list of Guernsey Micro-Lepidoptera published in the *Transactions* for 1898.

Gelechia ocelletella. One captured near Saints' Bay.

ADDITION TO THE LIST OF THE TENTHREDINIDÆ OR SAW FLIES OF GUERNSEY.

Pœcilosoma luteolum, *Klug.* One specimen captured in garden, Burnt Lane.

ADDITIONS TO THE LIST OF THE COLEOPTERA OF GUERNSEY.

Lucanus Cervus, *L.* A specimen of this, the largest British beetle, was brought to Mr. A. Collenette alive on June 28th. It had been taken near the Banks.

Cassida equestris, *F.* Several specimens of this species, which is very local in England, were taken on wild mint near Bon Repos on August 17th.

ADDITION TO THE LIST OF GUERNSEY DIPTERA.

Masicera ferruginea, *Mgn.* One, taken by sweeping, in Saints' Bay Valley. Not recorded as British.

W. A. Luff, Sec. Ent. Sect.

REPORT OF THE GEOLOGICAL SECTION.

As has been already remarked in previous reports, the work of the section must of necessity be small and the annual results meagre, the limited ground forming its field having been gone over for so many years. Still occasions arise in the progress of excavations, for drainage and other works, of obtaining information by which the conclusions drawn in former years may be strengthened or corrected, so that the section is not without hope that it will continue to add to the knowledge of the geology of the island. For this year, however, we have to be contented with small things, but we publish our results with the expression of a hope that next years transactions will contain a fuller report.

A.—SUPERFICIAL DEPOSITS.

1.—*Piette, St. Peter-Port.*

Mr. P. E. Robilliard having purchased ground from Mr. W. H. Smithard for the purpose of increasing his timber yard, has lowered the level thereof by excavation to the extent in some places of about ten feet. This excavation shows in every part sandy clay with angular pieces of diorite, and may be termed head, resembling the formation in the Vrangue Brickfield lower pit. No pebbles were met with nor was there any trace of peat. The excavation nowhere reached the rock *in situ*, although it could not be far off, judging from the large size of the pieces of diorite found at the lowest level exposed.

2.—*Ruettes Brayes.*

An excavation in the field below "Le Héchet" shows a thickness of from four to six feet of yellow earth, disposed in strata alternately, sandy and clayey, as at Route Isabelle and many other spots in this island, resting on decomposed gneiss. The stratification though very distinct is as usual irregular, but on the whole follows the slope of the hill. The underlying decomposed rock is pseudo-stratified, indicating movement of its particles towards the valley.

B.—ROCKS.

The Road Rock, St. Peter-Port Harbour.

The summit of this rock having been exposed by dredging, and thus rendered dangerous, divers were employed

to remove the projecting portion. This is seen to consist of diorite, intersected by viens of quartz felsite, passing into a granite containing a little hornblende.

C. G. De La Mare, Sec. Geol. Sect.

THE FLORA OF ALDERNEY.

BY MR. E. D. MARQUAND, EX-PRESIDENT.

Of all the Channel Islands the one least visited by botanists is Alderney. It is commonly believed to be a bleak, barren, dreary sort of spot, utterly devoid of interest, and cut off from the rest of the world by an exceptionally tempestuous sea. In an old book which has now become scarce,—Jacob's Annals of the British Norman Isles, published in 1830,—we are informed that "the botanist will be disappointed if his sole object in visiting Alderney is to collect rare plants,"—a statement which loses some of its force, however, when the author candidly confesses that he does not possess "the microscopic eye of those who make botany their peculiar study."

The earliest trustworthy list of the wild flowers of Alderney appears to have been the one compiled by the late Professor C. C. Babington, of Cambridge, who visited the island in 1838 and published the following year his Flora of the Channel Islands under the title of *Primitiæ Floræ Sarnicæ*. During the sixty years that have elapsed since then no one seems to have given particular attention to the subject, although both English and French botanists have from time to time paid flying visits to the island.

Knowing something about the flora of the other islands, it appeared to me certain that Alderney would on closer acquaintance present many features of interest, if only on account of its proximity to the coast of France; so I arranged to spend a few months there during the past summer (1899) in order to look into the botany of the island. And my highest expectations have been abundantly realised. Instead of being sterile and monotonous, Alderney is, from a botanical point of view, one of the most interesting of all the Channel Islands; while at the same time it is a perfect paradise to the weary brain-worker requiring rest. The coast scenery is varied and hardly to be surpassed in wildness and beauty; the air delightfully pure and very bracing; and there is everywhere an indescribable sense of liberty and freedom which is altogether lacking in the other islands.

It is curious to observe how the islands in the Channel group differ from each other in regard to their indigenous vegetation ; how a plant, for instance, will be abundant in one island, rare in another, and absent altogether in a third ; while certain plants are entirely confined to one island only, without any apparent cause. Then again there are some remarkable points of dissimilarity between the flora of the islands and that of the neighbouring French mainland. One would imagine that with less than ten miles of sea intervening, Alderney would resemble botanically certain parts of Normandy ; but it does not. This is one of the remarkable features of the insular flora, and I shall have something to say about it in my forthcoming book on the Flora of Guernsey and the Lesser Channel Islands.

Meantime it may be well to mention some of the best plants to be found here ; species which are either unknown or excessively rare in England, and consequently those which a botanist visiting this little island will be most desirous to see growing in their natural habitats.

The first place must be allotted to the small Rock Rose *(Helianthemum guttatum)* which grows in profusion on the southern cliffs not far from the Lover's Chair. This plant is confined to the Channel Islands, and is only known to grow in Alderney and Jersey. Two other non-British plants are *Centaurea aspera*, a species hitherto supposed to be restricted to Guernsey ; and *Bromus maximus*, a beautiful grass found in profusion everywhere in Alderney. Another plant which grows far more plentifully in this island than in Guernsey is the Yellow Bird's Foot *(Arthrolobium ebracteatum)* a pretty little vetch only known in the Scilly Isles. Three of the very rarest of British plants occur here in sufficient abundance to dispel any fear of possible eradication at the hands of greedy collectors : *Ononis reclinata*, *Bupleurum aristatum* and *Romulea Columnæ*. Several other excellent species might be mentioned, but they will be found in the annexed list ; enough has been said to show that this small island is not quite so uninteresting as most persons have supposed. Indeed I am inclined to think that a stranger will, in a single day's botanising, do better in Alderney than in any other of the Channel Islands.

The present list is restricted to species seen by me ; but as my researches have only extended from May to August (an exceptionally dry season, almost without rain during the entire period), and moreover as ornithology and entomology have occupied a large share of my attention, the

list is probably far from complete. It comprises, however, about 140 species not recorded for Alderney in Babington's *Flora Sarnica*.

To anyone sufficiently acquainted with the botany of Guernsey and the smaller islands, Alderney is exceptionally interesting, not only on account of the diversity of species-distribution, but also because so many plants are not represented in the other islands. I was aware that certain species were peculiar to Alderney, but I hardly expected to find so many. The following, for example, are unknown in Guernsey :—

Ranunculus Lingua.
Cochlearia officinalis.
Helianthemum guttatum.
Dianthus Armeria.
Silene nutans.
Scleranthus annuus.
Geranium sanguineum.
Hippuris vulgaris.
Rubia peregrina.
Valerianella eriocarpa.
Centaurea Scabiosa.
Carduus acaulis.
Tragopogon minor.
,, porrifolius.
Picris hieracioides.
Orobanche Rapum.
Thesium humifusum.
Orchis pyramidalis.
Avena pubescens.
Briza media.

During the summer I paid two visits to Burhou, an uninhabited island lying midway between Alderney and the Casquet Rocks. My chief object was to study the nesting habits of some of the sea birds ; but I availed myself of the opportunity to ascertain what sort of vegetation would cover a lonely wind-swept islet, situated very nearly in mid-channel. My first visit was made on May 30 ; my second on July 5 ; and on the latter occasion I had the unpleasant experience of having to pass the night on Burhou, owing to the sudden appearance of a dense fog.

The great mass of the vegetation I found to consist of only four species : Bracken fern *(Pteris aquilina)* very abundant ; Blue Bells *(Scilla nutans)*, of which the plants were unusually fine, with splendid flowers of a deep purple-blue, and deliciously fragrant ; the Rock Spurrey *(Lepigonum rupestre)* which forms a soft green carpet on all the bare spots not occupied by the two preceding ; and the Sea Campion *(Silene maritima)*, abundant in places, especially on Little Burhou, which is separated from Great Burhou by a channel uncovered at low tide.

The following plants were plentiful all over the island but not in sufficient quantity to form a conspicuous portion of the vegetation : *Anagallis arvensis*, *Erodium maritimum*, *Cochlearia danica*, *Cotyledon umbilicus* (common among rocks)

and *Sagina maritima*. The remainder were very local or scarce : *Glaux maritima* (extremely fine among rocks above high-water mark in one place) ; *Scirpus maritimus* (a few roots above high-water mark on the western side ; an interesting species because as yet there is no evidence of its occurrence in Alderney), *Rumex crispus*, *Lycopsis arvensis*, *Crithmum maritimum*, *Myosotis arvensis*, *Atriplex hastata*, and in rock crevices on the north side two or three roots of *Lastrea filix-mas*.

These seventeen plants compose the entire flora of Burhou, so far as I could discover. Possibly in a less dry season a few others would have been added. It is interesting to compare this meagre list with that of Lihou Island on the west coast of Guernsey, the two islands being roughly speaking about the same size. As many as 86 flowering plants and 4 ferns have been found on Lihou, or more than five times as many as on Burhou ; but then the former is very much closer to the main island, and seeds would easily be blown across.

In the following pages 414 flowering plants and 12 ferns and fern-allies are enumerated.

Ranunculus trichophyllus, *Chaix*. Marshes at Longy and Mauney.
R. flammula, *L*. Common in wet places.
R. Lingua, *L*. Plentiful in the pool on Longy Common ; some of the plants six feet high.
R. Ficaria, *L*. Frequent.
R. acris, *L*. Common in damp meadows.
R. repens, *L*. Frequent.
R. bulbosus, *L*. Very common.
Papaver hybridum, *L*. Frequent, especially in cornfields.
P. Rhæas, *L*. Common.
P. dubium, *L*. Frequent.
P. somniferum, *L*. Rare ; noted in several places.
Glaucium luteum, *Scop*. Plentiful on the sandy shores.
Fumaria confusa, *Jord*. Common.
F. officinalis, *L*. Cultivated fields, Blaye ; frequent.
Nasturtium officinale, *R. Br*. Common in wet places.
Arabis hirsuta, *R. Br*. Frequent in all parts.
Cardamine flexuosa, *With*. Rather rare.
C. hirsuta, *L*. Common.
Sisymbrium officinale, *Scop*. Common.
Alliaria officinalis, *Andr*. Valley opposite Scott's Hotel.
Brassica campestris, *L*. Var. *Napus*. Occasional on the Blaye and elsewhere.
Sinapis arvensis, *L*. Very common.
S. incana, *L*. Plentiful in the neighbourhood of Braye.

Diplotaxis tenuifolia, *DC.* Very common.

D. muralis, *DC.* Rather common.

Alyssum maritimum, *L.* Walls near the church. Valley Road.

Draba verna, *L.* Banks below Essex Castle. Wall-top in Rose Farm Valley.

Cochlearia officinalis, *L.* Abundant along the sea cliff near Clanque; also on the shore under Fort Albert, and east of Fort Corbelets.

C. danica, *L.* One of the commonest of spring plants.

Armoracia rusticana, *Rupp.* Noted in several places.

Lepidium ruderale, *L.* Roadside, Crabbie Bay; about twenty plants.

Capsella Bursa-pastoris, *DC.* Common.

Senebiera coronopus, *Poir.* Frequent.

S. didyma, *Pers.* Roadside near Government House, and at Braye.

Cakile maritima, *Scop.* Occurs in all the sandy bays.

Crambe maritima, *L.* In good quantity in one place at the north-eastern end of the island. Platte Saline towards Fort Tourgis, one plant.

Raphanus raphanistrum, *L.* On the railway embankment.

R. maritimum, *Sm.* Plentiful on the cliffs, and more or less all round the coast.

Reseda Luteola, *L.* Rare; only two or three plants seen.

Helianthemum guttatum, *Mill.* Grows in profusion on one part of the cliffs between Val du Sud and the Lover's Chair. Flowers early in June.

Viola Riviniana, *R.* Common.

V. arvensis, *Murr.* Rare.

Polygala oxyptera, *Reich.* Rather common on the cliffs and in furze-brakes.

Dianthus Armeria, *L.* A small patch on the cliffs near Val du Sud.

Silene anglica, *L.* Frequent in cornfields, occasionally on the cliffs; sometimes with pale rosy-pink flowers.

S. nutans, *L.* In fair quantity in a furze-brake beyond Fort Tourgis; also on the cliffs near Chaise à l'Emauve. The flowers are very fragrant in the evening.

S. inflata, *Sm.* Rather common.

S. maritima, *With.* Very common on the coast.

S. conica, *L.* The ordinary dwarf form occurs on the northern slopes of Butes Hill; but I have found on the hillside at Mauney unusually fine plants 16 inches high.

Lychnis flos-cuculi, *L.* Common in wet places.

L. vespertina, *Sibth.* Common.

L. diurna, *Sibth.* Rare.

L. Githago, *Scop.* In cornfields; rare.

Sagina procumbens, *L.* Common.

S. apetala, *L.* Frequent.

S. maritima, *Don.* Rather common on the coast.

S. subulata, *Wim.* On the cliffs and near Fort Corbelets.

Honkeneja peploides, *Ehr.* In all the sandy bays.

Arenaria serpyllifolia, *L.* Rather common. Var. *Lloydii.* Longy Bay

Stellaria media, *Vill.* Common.

Cerastium glomeratum, *Thuil.* Much less frequent than the next.

C. triviale, *Link.* Very common.

Cerastium semidecandrum, *L.* Butes Hill.
C. tetrandrum, *Curt.* Common.
Mœnchia erecta, *Sm.* Cliffs near La Chue.
Polycarpon tetraphyllum, *L.* Rather common.
Lepigonum rubrum, *Fr.* Rare.
L. rupestre, *Leb.* Very common on the coast; inland on walls and banks.
Spergula arvensis, *L.* Cultivated fields, Blaye.
Scleranthus annuus, *L.* Cliffs near Val du Sud, a small dwarf form.
Malva sylvestris, *L.* Common
M. rotundifolia, *L.* Church Road, two plants.
Lavatera arborea, *L.* Frequent on the north-east coast.
Tilia intermedia, *DC.* A few trees in the Terrace; planted.
Hypericum tetrapterum, *Fr.* Common near streamlets.
H. humifusum, *L.* Frequent on the cliffs.
H. linariifolium, *Vahl.* On a headland near Chaise à l'Emauve; typical and in fair quantity.
H. elodes, *L.* Trois Vaux.
Acer Pseudo-platanus, *L.* Common.
Geranium sanguineum, *L.* A patch about a yard square at the lower end of the Longy Road.
G. molle, *L.* Very common.
G. dissectum, *L.* Common.
G. columbinum, *L.* On the railway banks, in some quantity.
G. robertianum, *L.* Rare in the island, though I have seen it in half a dozen stations.
Erodium cicutarium, *L.* Very common. Var. *pimpinellifolium* on the southern cliffs, and on the Blaye.
E. moschatum, *Sm.* Frequent.
E. maritimum, *L'Her.* Grows on wall tops at the higher part of St. Anne's, and in Rose Farm Valley.
Linum angustifolium, *Huds.* Rather common in all parts.
L. catharticum, *L.* Butes Hill. Longy Common.
Ulex europæus, *L.* Very common.
U. nanus, *Forst.* Cliffs near Chaise à l'Emauve. Rose Farm Valley.
U. Gallii, *Planch.* Common on the cliffs.
Sarothamnus scoparius, *Koch.* Here and there on the cliffs, and on Mauney Hill. Var. *prostratus.* Plentiful on the cliffs at Chaise à l'Emauve, Tête de Judmare, and Clanque.
Ononis arvensis, *L.* Very common.
O. reclinata, *L.* Plentiful at Longy Bay, Corbelets, and in the large quarry at Mauney. Flowers at the beginning of June, before *O. arvensis* shows any signs of flowering.
Medicago sativa, *L.* Very common.
M. lupulina, *L.* Common.
M. maculata, *Sibth.* Very common.
M. denticulata, *Willd.* Butes Hill. Longy Road. Cliffs near La Chue.
Melilotus parviflora, *Desf.* One plant on a rubbish heap near Fort Quenard.
Trifolium pratense, *L.* Very common.
T. arvense, *L.* Common on some parts of the cliffs.

Trifolium striatum, *L.* Frequent on the cliffs, and at Mauney. Var. *erectum*. In several places, but less common than the type.

T. scabrum, *L.* Butes Hill.

T. subterraneum, *L.* Rather common.

T. glomeratum, *L.* Dry bank on the Blaye.

T. suffocatum, *L.* Cliffs above the Hanging Rock.

T. repens, *L* Very common.

T. fragiferum, *L.* Trois Vaux. Val du Sud. Rose Farm Valley.

T. procumbens, *L.* Frequent.

T. minus, *Sm.* Very common.

T. filiforme, *L.* Cliffs near Val du Sud.

Lotus corniculatus, *L.* Very common.

L. major, *Scop.* Frequent in wet places.

L. angustissimus, *L.* Cliffs near Val du Sud.

L. hispidus, *Desf.* Frequent in dry places in all parts.

Anthyllis vulneraria, *L.* Rather common.

Vicia hirsuta, *Koch.* Frequent.

V. tetrasperma, *Mœnch.* Large quarry at Mauney.

V. Cracca, *L.* Furze croft near Essex Castle.

V. sativa, *L.* Frequent.

V. angustifolia, *Roth.* Common.

Ornithopus perpusillus, *L.* Common.

Arthrolobium ebracteatum, *DC.* Locally plentiful on some parts of the cliffs, especially in old quarries ; also in old quarries at Mauney.

Prunus communis, *Huds.* Frequent.

Alchemilla arvensis, *L.* Common on the cliffs.

Potentilla anserina, *L.* Common.

P. reptans, *L.* Common.

P. Tormentilla, *Nesl.* Very common.

Rubus cæsius, *L.* Frequent.

Geum urbanum, *L.* Neighbourhood of the Terrace. Rose Farm Valley.

Rosa spinosissima, *L.* Here and there on the cliffs, but sparingly and only in small patches.

R. canina, *L.* On the cliffs, rare. Rose Farm Valley.

R. stylosa, *Desv.* One fine bush on the cliffs near Val du Sud.

Cratægus oxyacantha, *L.* Frequent.

Tamarix anglica, *Webb.* Longy Road. Near Fort Tourgis.

Epilobium parviflorum, *Schreb.* Common in wet places.

Œnothera odorata, *Jacq.* Northern end of Butes Hill, about twenty plants.

Circæa lutetiana, *L.* A troublesome weed in gardens.

Hippuris vulgaris, *L.* Abundant in the pond on Longy Common.

Montia fontana, *L.* Frequent in wet places. Var. *rivularis*. Trois Vaux. Old quarry near Val du Sud.

Herniaria glabra, *L.* Rozel Point, sparingly.

Sedum anglicum, *Huds.* Very common.

S. acre, *L.* Frequent on the sand hills. Here and there abundant on the cliffs.

Cotyledon Umbilicus, *L.* Very common.

Hydrocotyle vulgaris, *L.* Frequent in wet places.

Eryngium maritimum, *L.* Common in all the sandy bays.

Apium nodiflorum, *R.* Common.

Petroselinum sativum, *Hoffm.* In many parts of the island, chiefly near ruins.

Sium angustifolium, *L.* Streamlet, Longy Bay.

Bupleurum aristatum, *Bart.* Plentiful on the sand-hills at Longy and Braye Bay and the western slopes of Fort Albert; more sparingly on the cliffs. Flowers about the beginning of June.

Fœniculum officinale, *All.* Abundant between St. Anne's and Braye Bay.

Crithmum maritimum, *L.* Common all round the coast.

Pastinaca sativa, *L.* Rather common in cultivated fields.

Heracleum Sphondylium, *L.* Very common.

Daucus Carota, *L.* Frequent in all parts.

D. maritimus, *With.* Common on the coast.

Torilis nodosa, *Gaert.* Rather common.

Scandix Pecten-Veneris, *L.* Near Fort Albert, and on the railway banks, sparingly.

Chærophyllum sylvestre, *L.* Common.

C. Anthriscus, *Lam.* Frequent.

Conium maculatum, *L.* Rather common.

Smyrnium Olusatrum, *L.* In two places at the upper side of St. Anne's.

Hedera helix, *L.* Common.

Sambucus nigra, *L.* Frequent in all parts.

Lonicera periclymenum, *L.* On the cliffs, here and there.

Sherardia arvensis, *L.* Rather common; occasionally with pure white flowers.

Galium Aparine, *L.* Very common.

G. verum, *L.* Plentiful in the low-lying parts of the island.

G. saxatile, *L.* Frequent on the cliffs.

G. palustre, *L.* Pond on Longy Common, in plenty.

Rubia peregrina, *L.* Covering a portion of the sea bank at Corbelets Bay.

Centranthus ruber, *DC.* On walls in the town.

Valerianella olitoria, *Moench.* Roadside near Fort Tourgis, a few plants intermixed with *V. carinata.*

V. carinata, *Lois.* Very common.

V. eriocarpa, *Desv.* In several places about Longy, Corbelets and Mauney; local, but plentiful where it occurs. Closely resembling *V. carinata,* but the flowers are brighter coloured.

Petasites fragrans, *Presl.* Higher part of St Anne's, in one spot.

Erigeron acris, *L.* Hillside opposite Scott's Hotel.

Bellis perennis, *L.* Very common.

Inula crithmoides, *L.* Behind Fort Corbelets. Baye de Saye.

Pulicaria dysenterica, *Gaert.* Common in wet places.

Filago minima, *Fr.* On the cliffs.

Achillea millefolium, *L.* Very common.

Anthemis Cotula, *L.* Near Essex Castle.

A. nobilis, *L.* Frequent on the cliffs.

Matricaria inodora, *L.* Rather common.

Chrysanthemum Leucanthemum, *L.* Common on the cliffs and on Mauney Hill.

C. segetum, *L.* In cultivated fields, occasionally ; not common.

Artemisia Absinthium, *L.* Plentiful in the neighbourhood of Crabbie.

A. vulgaris, *L.* Braye Sands, sparingly.

Senecio vulgaris, *L.* Very common.

S. sylvaticus, *L.* Common on the cliffs.

S. Jacobæa, *L.* Very common.

Carlina vulgaris, *L.* Frequent on the eastern side of the island.

Arctium nemorosum, *Lej.* Common in the vicinity of the Harbour. Essex Castle Hill. Rose Farm Valley.

A. minus, *Schk.* Frequent.

Centaurea nigra, *L.* Common. The radiant form is the prevailing one. At Rochers with cream-white flowers, probably var. *pallens*, Koch.

C. cyanus, *L.* One plant in cornfield, Blaye. Butes Hill, one plant.

C. Scabiosa, *L.* Common in the central parts of the island. With pure white flowers at Rochers.

C. aspera, *L.* A fine patch in a sandy pasture at the eastern end of Braye Bay.

Carduus nutans, *L.* Rather common.

C. tenuiflorus, *Curt.* Common.

C. lanceolatus, *L.* Common. With white flowers at Val du Sud.

C. arvensis, *Curt.* Very common.

C. palustris, *L.* Common in wet places.

C. acaulis, *L.* Abundant on the eastern slope of Fort Albert Hill, and also towards Corbelets.

Hypochœris glabra, *L.* Rather common on the cliffs. Var. *Balbisii*, near Val du Sud.

H. radicata, *L.* Very common.

Thrincia hirta, *DC.* Common.

Leontodon hispidum, *L.* Longy Common.

Tragopogon minor, *Fries.* Longy Road. Hillside near Longy Bay. Slopes of Fort Albert Hill.

T. porrifolius, *L.* Naturalised on an isolated rocky eminence near the old Harbour, where there are a good many plants.

Picris hieracioides, *L.* In several places between Braye, Corbelets and Longy ; local but abundant where it occurs ; grows on dry banks.

Helminthia echioides, *Gaert.* Lower end of Longy Road, and on the Railway banks.

Taraxacum officinale, *Wigg.* Common.

Sonchus oleraceus, *L.* Common.

S. asper, *Hoffm.* Much less plentiful than the last.

S. arvensis, *L.* A few plants in cornfields.

Crepis virens, *L.* Rather common.

C. biennis, *L.* Very common in hayfields and pasture lands, occasionally on roadsides. Flowers earlier than *C. virens*.

Hieracium Pilosella, *L.* Frequent on the north-eastern coast and on the cliffs. Var. *Peleterianum*. Frequent.

Jasione montana, *L.* Common.

Calluna vulgaris, *Salisb.* Common on the cliffs.

Erica cinerea, *L.* Very common.

Fraxinus excelsior, *L.* Roadside near Rose Farm. Valley below Essex House.

Vinca major, *L.* Braye Road; a garden escape.

Erythræa Centaurium, *Pers.* Rather common.

Convolvulus arvensis, *L.* Very common.

C. sepium, *L.* Frequent.

C. Soldanella, *L.* Common in all the sandy bays.

Cuscuta epithymum, *Weihe.* Common; grows much oftener on low plants on the ground than on furze.

C. trifolii, *Bab.* I have twice seen a lemon yellow Cuscuta spreading over low plants, but there were no flowers in either case, so that I am not sure if the plant belongs to this species.

Borago officinalis, *L.* Frequent.

Lycopsis arvensis, *L.* Rather common.

Symphytum officinale, *L.* Abundant in a field between St. Anne's and Fort Tourgis.

Echium vulgare, *L.* Frequent on the cliffs and in the eastern half of the island.

Myosotis repens, *Don.* Common in all the cliff streams. Rose Farm Valley.

M. arvensis, *Lehm.* Occasional in the central parts of the island.

M. collina, *Hoffm.* Rather common.

M. versicolor, *Reich.* Rather common.

Solanum nigrum, *L.* Roadsides, one plant each in three places.

S. Dulcamara, *L.* Frequent.

Lycium barbarum, *L.* An African plant thoroughly naturalised in Alderney. It occurs in all parts of the island, often at a distance from habitations, and grows luxuriantly.

Hyoscyamus niger, *L.* Platte Saline by Fort Doyle, one plant.

Orobanche Rapum, *Thuill.* Common on the cliffs about Chaise à l'Emauve (Lover's Chair), and both east and west of Trois Vaux.

O. Hederæ, *Duby.* In profusion in a garden near Government House.

O. minor, *Sutt.* Common.

O. cærulea, *Vill.* In all parts of the island, but local, though sometimes abundant where it occurs. A very beautiful species, with violet blue flowers.

Verbascum nigrum, *L.* Field on the Longy Road, and in several places on the top of the hill at Rochers. All apparently belong to the var. *tomentosum*.

Digitalis purpurea, *L.* Here and there on the cliffs; not common.

Antirrhinum majus, *L.* On walls on the outskirts of the Town.

Linaria Cymbalaria, *Mill.* On walls near the Church.

Scrophularia aquatica, *L.* Rose Farm Valley.

Pedicularis sylvatica, *L.* Rather common on the cliffs.

Eufragia viscosa, *Benth.* Frequent.

Euphrasia officinalis, *L.* Common.

Odontites rubra, *Pers.* Longy Common (var. *verna*).

Veronica Anagallis, *L.* Streamlet in Longy Bay.

V. Beccabunga, *L.* Marshy place above Platte Saline. Rose Farm Valley.

V. Chamædrys, *L.* Common. With lilac flowers, Val du Sud.

Veronica arvensis, *L.* Valley Road. Longy Road.
V. agrestis, *L.* Common on the Blaye. Longy Bay.
V. polita, *Fries.* Common in cultivated fields.
V. Buxbaumii, *Ten.* Occasional on roadsides and in cultivated fields.
V. hederifolia, *L.* Common.
Mentha viridis, *L.* Lane near Essex House.
M. piperita, *L.* Valley below Essex House, where it has every appearance of being wild.
M. aquatica, *L.* Common in wet places.
Salvia verbenaca, *L.* Very common.
Thymus serpyllum, *L.* Common.
Prunella vulgaris, *L.* Frequent.
Nepeta Glechoma, *Benth.* Plentiful on the east side of Essex Castle Hill.
Lamium amplexicaule, *L.* Common in cultivated fields.
L. purpureum, *L.* Also common in cultivated fields.
L. incisum, *Willd.* Fields on the Blaye near Old Mill.
Stachys sylvatica, *L.* Frequent in the western half of the island.
S. palustris, *L.* Two localities on the Blaye.
S. arvensis, *L.* In a cornfield, Blaye.
Ballota fœtida, *Lam.* Here and there throughout the island.
Marrubium vulgare, *L.* By the Nunnery, Longy. New Town. Towards Fort Albert.
Teucrium Scorodonia. Common on the cliffs. Also common at Mauney and Corbelets.
Verbena officinalis, *L.* A few scattered plants to the westward of St. Anne's.
Primula vulgaris, *Huds.* Rather common.
Glaux maritima, *L.* Sparingly among rocks on the coast near Fort Houmet. Very fine on the western side of the island of Burhou.
Anagallis arvensis, *L.* Common. Often with salmon coloured flowers.
A. tenella, *L.* Common on streamsides on the cliffs.
Samolus Valerandi, *L.* In all the cliff valleys, and at Corbelets.
Armeria maritima, *Willd.* Common on the coast.
Plantago Coronopus, *L.* Very common.
P. lanceolata, *L.* Very common.
P. major, *L.* Rather common.
Salsola Kali, *L.* Frequent in the sandy bays.
Chenopodium album, *L.* In cult. fields, common.
C. murale, *L.* Frequent.
Beta maritima, *L.* Common on the coast.
Atriplex angustifolia, *Sm.* Frequent on the Blaye.
A. deltoidea, *Bab.* Baye de Saye.
A. farinosa, *Dum.* Frequent in sandy bays.
Rumex conglomeratus, *Murr.* Rather common.
R. pulcher, *L.* Common.
R. obtusifolius, *L.* Frequent.
R. crispus, *L.* Rather common.
R. Acetosa, *L.* Frequent.
R. Acetosella, *L.* Common.

Polygonum amphibium, *L.* Pond on Longy Common.
P. lapathifolium, *L.* Braye sands.
P. Persicaria, *L.* Longy.
P. Hydropiper, *L.* Rose Farm Valley.
P. aviculare, *L.* Very common.
P. Convolvulus, *L.* Cultivated fields, Longy Road.
Thesium humifusum, *DC.* North side of Butes Hill. Longy Common. Hillside opposite Braye Bay.
Euphorbia Peplis, *L.* Crabbie Bay. Platte Saline.
E. Helioscopia, *L.* Common on the Blaye.
E. Paralias, *L.* In all the sandy bays.
E. portlandica, *L.* Frequent on the cliffs, and in sandy bays.
E. Peplus, *L.* Common.
Mercurialis annua, *L.* Very common in cultivated fields and waste places
Callitriche verna, *L.* Old mill pond, Rose Farm Valley.
Parietaria diffusa, *Koch.* Plentiful on walls on the western side of the town. On the cliffs. By Picaterre Brewery.
Urtica urens, *L.* Frequent in waste ground.
U. dioica, *L.* Very common.
Humulus lupulus, *L.* Old quarry, Valley Road.
Ulmus campestris, *Sm.* Frequent.
U. montana, *With.* Valley opposite Scott's Hotel.
Salix fragilis, *L.* New Town.
S. Caprea, *L.* Hedges between St. Anne's and Fort Tourgis.
S. cinerea, *L.* Cliff valleys. Rose Farm Valley.
Populus alba, *L.* Above Platte Saline. Val du Sud. Longy Road.
P. nigra, *L.* Church Road.
Betula glutinosa, *Fries.* The Terrace; planted.
Castanea vulgaris, *Lam.* The Terrace; planted.
Quercus Robur, *L.* The Terrace (var. *pedunculata*).
Orchis latifolia, *L.* Marshy spot on the hillside at Clanque.
O. pyramidalis, *L.* In several places and in some quantity between Braye and Fort Corbelets. Lower end of Butes Hill.
Spiranthes autumnalis, *Rich.* Sandy field opposite Braye Bay.
Iris Pseudacorus, *L.* Valley Road. Pool on Longy Common.
I. fœtidissima, *L.* Cliffs by the Hanging Rock, and further west.
Romulea Columnæ, *R.* Locally abundant all round the coast.
Triglochin palustre, *L.* Streamsides in several cliff valleys; and above Platte Saline.
Ruscus aculeatus, *L.* Here and there on the cliffs; and towards Fort Albert.
Scilla autumnalis, *L.* Several places on the cliffs. Near Fort Corbelets.
Allium triquetrum, *L.* In grassy places in Victoria Street, at Government House, and in St. Anne's Churchyard.
Endymion nutans, *Dum.* Frequent on the cliffs and about Corbelets. Abundant and exceptionally fine on the island of Burhou.
Juncus maritimus, *Sm.* Coast north of Longy.
J. acutus, *L.* With the last, but more sparingly. Below Essex Castle.
J. conglomeratus, *L.* In all the cliff valleys.

J. glaucus, *Sibth.* In several cliff valleys, plentifully. Mauney.
J. acutiflorus, *Ehr.* Marshy spot on the cliffs at Clanque.
J. lamprocarpus, *Ehr.* Cliff valleys. Mauney.
J. supinus, *Moench.* Cliff streams near Val du Sud. Clanque cliffs.
J. bufonius, *L.* Rather common.
Luzula campestris, *Willd.* Common.
L. multiflora, *Lej.* Rather common.
Lemna minor, *L.* Common in ditches.
Cyperus longus, *L.* One patch in a wet meadow between St. Anne's and Platte Saline.
Schœnus nigricans, *L.* Trois Vaux, in abundance. Cliff streams about Clanque.
Eleocharis palustris, *R. Br.* Common in marshy spots.
E. multicaulis, *Sm.* In several cliff valleys.
Scirpus maritimus, *L.* Grows luxuriantly in one place at the west of Burhou, but I have not yet seen it in Alderney.
S. Tabernæmontani, *Gm.* Pool on Longy common, plentiful.
S. setaceus, *L.* Cliff valleys. Rose Farm Valley. Coast near Corbelets.
S. Savii, *S. & M.* Trois Vaux.
Carex pulicaris, *L.* Clanque cliffs. Trois Vaux.
C. arenaria, *L.* Very common.
C. muricata, *L.* Clanque cliffs.
C. divulsa, *Good.* Lane between St. Anne's and Platte Saline.
C. paniculata, *L.* Clanque cliffs.
C. stellulata, *Good.* Clanque cliffs.
C. panicea, *L.* In several cliff valleys.
C. præcox, *Jacq.* Slopes of Essex Castle.
C. glauca, *Scop.* Common.
C. flava, *L.* Rather common.
C. extensa, *Good.* Among rocks above high water mark by Fort Houmet.
C. hirta, *L.* The commonest Carex in the island, occasionally very fine.
Phalaris canariensis, *L.* Here and there on rubbish heaps, doubtless from scattered bird seed.
P minor, *Retz.* In cultivated ground in several places, and in considerable quantity.
Anthoxanthum odoratum, *L.* Very common.
Phleum arenarium, *L.* Common in sandy places.
Alopecurus pratensis, *L.* Meadow near Rose Farm.
A. geniculatus, *L.* Cliff valleys. Rose Farm Valley.
Phragmites communis, *Trin.* Plentiful in the pool on Longy Common.
Psamma arenaria, *R. & S.* Common on the sand hills.
Agrostis vulgaris, *With.* Common on the cliffs.
A. alba, *L.* Rochers.
Holcus lanatus, *L.* Very common.
Aira caryophyllea, *L.* Common.
A. præcox, *L.* Common on the cliffs.
Trisetum flavescens, *Beauv.* Very common on the hill-sides at Rochers and Butes Hill.
Avena pubescens, *L.* Mauney. Longy Road.

Arrhenatherum elatius, *M. & K.* Frequent. Var. *bulbosum.* Blaye. Clanque cliffs.

Triodia decumbens, *Beauv.* Frequent on heaths and cliffs.

Kœleria cristata, *Pers.* Frequent on the eastern sandy coast.

Poa annua, *L.* Very common.

P. trivialis, *L.* Common.

P. pratensis, *L.* Very common

Glyceria fluitans, *R. Br.* Frequent in streamlets.

Sclerochloa loliacea, *Woods.* Rather common.

Briza media, *L.* Clanque cliffs, in two or three places, sparingly.

Cynosurus cristatus, *L.* Common.

Dactylis glomerata, *L.* Very common.

Festuca uniglumus, *Sol.* Longy. Corbelets. Braye.

F. sciuriodes, *Roth.* Frequent. A large form, 18 inches high, at the lower end of the valley opposite Scott's Hotel.

F. ovina, *L.* Common.

F. rubra, *L.* Rather common.

F. oraria, *Dum.* Braye Bay. Common about Fort Tourgis.

Bromus sterilis, *L.* Very common.

B. maximus, *Desf.* Generally distributed and abundant in Alderney. One of the most beautiful of grasses.

Serrafalcus mollis, *Parl.* Very common.

Brachypodium sylvaticum, *R. & S.* Cliffs near Val du Sud. The Terrace.

Triticum repens, *L.* Very common.

T. junceum, *L.* Longy Bay. Braye Bay.

Hordeum murinum, *L.* Very common.

Lolium perenne, *L.* Very common.

L. italicum, *A. Braun.* Here and there, sparingly.

Equisetum arvense, *L.* Blaye. Longy Road.

E. palustre, *L.* Marsh on Longy Common.

Polypodium vulgare, *L.* On walls and rocks here and there all over the island, but mostly stunted.

Lastrea Filix-mas, *Presl.* Rose Farm Valley, scarce. A few roots at Clanque, and more plentifully in one spot on the hill-side above Clanque Bay. Old quarries at Mauney, sparingly.

L. dilatata, *Presl.* Rose Farm Valley, very scarce. Also rare on the hill-side above Clanque.

Athyrium Filix-fœmina, *Roth.* Rose Farm Valley, scarce.

Asplenium lanceolatum, *Huds.* On the cliffs in a few places, and at Clanque.

A. Adiantum-nigrum, *L.* The most frequent fern in the island, except Bracken, but generally poor and stunted. It is by no means common.

A. marinum, *L.* On rocks close to Fort Corbelets, a few roots.

Scolopendrium vulgare, *Sym.* On walls on the outskirts of St. Anne's, sparingly and stunted. Mauney Quarries, scarce.

Ceterach officinarum, *Willd.* Three plants on a wall on the west of St. Anne's.

Pteris aquilina, *L.* Very common. This is the only fern at all plentiful in Alderney.

ON SOME GUERNSEY CAVES.

BY CECIL R. P. ANDREWS, M.A.

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In my visits to the Channel Islands, I have been much struck by the different treatment which the coasts of Sark and Guernsey receive at the hands of the general public. Almost every visitor to the former island explores the caves, and becomes acquainted with every part of the coast, taking boat to the less accessible spots. In Guernsey, people seem to confine themselves to the bays, and it is the rarest thing in the world to meet anyone scrambling on the rocks at the foot of the cliffs. A friend of mine, who was staying in Sark, and was eloquently upholding the superiority of that island, assured me that a Guernseyman staying in his hotel had told him that there was only one cave in Guernsey, and that was a dirty one, not worth exploring. I was considerably surprised at this, but I was far more surprised to find it stated, in Professor Ansted's History of the Channel Islands, that the cave in Divette Bay was the finest in the island after the Creux Mahié. The length of the Divette cave is only some 50 or 60 feet; though the rocks at the entrance are remarkably massive and striking.

The caves of Guernsey cannot be compared with those of Sark, either in wealth of animal life or in number; nor have they those fascinating connecting passages, by which one Sark cave joins another, or by which you can pass through the rock to an otherwise inaccessible bay. Still, the south coast of the larger island possesses many caves of considerable size and interest. I have not made by any means an exhaustive exploration of the coast, nor, except in one case, have I taken exact measurements; but I have been asked to write a short account of some of the largest caves which I have seen, and I hope that these notes will be regarded merely as rough and imperfect jottings.

Between La Moie and Petit Bot are a large number of fine caves. Starting from La Moie, the first is in the

angle formed by the promontory and the main coast line, but is not of great interest. The second is immediately under the valley where the cliff falls back by Mr. Carey's house. By following the path down the valley, and crossing the stream to the rocky point on the left, an easy descent will be found. The stream falls over the cliff in front of the mouth of the cave, which is about 150 feet in length. It is in the greenstone, and at the back of it is a slight flow of water, which has left a mass of a soft red (ferruginous ?) deposit.

To the east of the point of descent is a small bay with three caves. The first is in the greenstone, and of no great size ; the second and third are in the granite. The second is nearly 200 feet in length ; the greater part of it is fairly light, as the entrance is high, but the back part is pitch dark, as the walls approach and then separate again, and the direction of the passage changes slightly. The third is about 130 feet long.

Close to the mouth of this last cave, and at right angles to it, there is a lofty tunnel which pierces the headland which forms the eastern point of the small bay. This gives admission to the next bay, in which is another cave in the granite, at right angles to the tunnel. This is over 150 feet in length, and has several pools which necessitate wading. Beyond this, eastward, a scramble over some very fine rocks—passing one cave of about 100 feet—brings one to a bay of considerable size, with a magnificent precipitous cliff at the back of it. Large numbers of cormorants may be seen nesting on its ledges in the spring. This bay contains four caves ; the first is not large, but its granite walls are stained with brilliant blood-red colour. The second is a very fine lofty cave in black rock ; the roof is about 50 feet high and bears a luxuriant growth of *Asplenium marinum*. The floor is under water through a great part of the cave, which extends, I believe, for over 200 feet. The third is a smaller cave, but of considerable length ; the fourth, in the granite, is smaller still. One of the two latter has a side branch of some 40 or 50 feet

There is a kind of sandstone gutter in the eastern corner of the bay, just where the large rocks join the cliff, which affords an easy ascent. The rocks between this bay and the fishermen's mooring-place are magnificent ; you pass between the cliff and enormous detached masses, under a natural arch, and finally through a small tunnel under fallen rocks. Below the arch is a curious split in the cliff, the

opening forming an angle of about 50 degrees with the ground and being only about 3 feet in breadth, with water at the bottom. This crack can be penetrated for 50 or 60 feet, and widens out at the back. Just before reaching the fishermen's landing-place there is a beautiful little cave, with a huge slab of rock thrown, like a flying buttress, across its archway. The sandy bay between here and Petit Bot contains only one cave, and that a small one.

Passing along the rocks to the east of Petit Bot, there are five caves within a short distance. The first of these is remarkable for having a "chimney" opening at the back, which, when discovered, forms a very short cut to the cave. Its colouring is extremely beautiful, the floor being composed of rounded masses of dark green rock with a bright mauve coating wherever there is a pool. In one of these caves there is a large Anemone, *Bunodes crassicornis*, which has been in the same spot every time I have visited the cave in four different years.

The largest cave which I have seen in Guernsey is a short distance to the east of the Creux Mahié, where there is a projecting piece of cliff running north and south. Its mouths can be seen from the Tielles battery and the neighbouring cliffs. On descending, one first comes to a small square red cave, with an upper chamber at the back on the right hand side. Beyond this cave is a small entrance, which looks most unpromising; the hole is so small that the interior is pitch dark, and there is often a pool just inside. The floor is of rounded granite boulders; the ceiling rises as soon as the entrance is passed. After penetrating for 180 feet, this passage is joined by another which has run almost parallel to it from a mouth just beyond our entrance. This junction is the broadest part of the cave, measuring 24 feet across. Beyond this the united caves run for a further distance of 100 feet, giving a total length of 280 feet from mouth to back, and about 460 feet of subterranean passage in all. By way of comparison it may be mentioned that the Creux Mahié, as measured by the Society, is 185 feet in length, and 60 feet broad in its widest part.

The further of the two parallel passages is a very remarkable one, being 60 or 70 feet high, and only 3 or 4 feet broad. I have not been right through it, as the water is too deep for wading, but I have been in for some distance at both ends. The perpendicular walls are very fine, and the colouring near the mouth is gorgeous on the sides and also in the pools. Near the entrance there is a ledge some 30 feet

up the right hand wall; it is possible to climb to this and stand astride across the cave, of which one thus gets a splendid view. From its great height it is, of course, well lighted.

At the extremity of this north and south cliff face, a wall of rock projects westward into the sea. This is a favourite nesting-place for the cormorants, and contains, at a height of about 30 or 40 feet, a small cave, at the back of which a window pierces the wall and looks out southward.

I have seen many other caves along the south coast, and a fine natural arch or tunnel west of the Tielles; and no doubt there are many more which I have not yet reached. But I have already been longer than I intended, and I will confine myself to two more remarks. First, in climbing over the lower parts of the cliffs, and the rocks below, I have found that three plants, which are otherwise rare in Guernsey, are widely distributed, and often grow in profusion, viz.: *Atriplex portulacoides*, *Statice occidentalis*, and *Inula crithmoides*. Lastly, I have measured the largest cave with a 50 foot measure, but the other distances are all rough approximations, obtained by stepping out the length; a process which cannot easily be carried out with accuracy over a floor of large boulders in a dark cave.

LIST OF THE ARANEIDEA OR SPIDERS OF THE CHANNEL ISLANDS.

BY FREDK. O. PICKARD-CAMBRIDGE, B.A.

A SMALL collection of spiders made in the island of Alderney by E. D. Marquand, Esq., has been sent to me by Mr. Luff. Two of the twenty-one species obtained are new to the Channel Island List, namely, *Pardosa prativaga*, L. K., and *Drassodes pubescens*, Thor. There is nothing very remarkable about the spiders collected; two fine adult males of *Asagena phalerata* previously taken by Mr. Warburton in Guernsey being the most interesting and striking forms. These adult males possess in common with those of *Steatoda bipunctata* the various species of *crustulina* and *Teutana grossa*, a remarkable stridulating organ at the base of the abdomen, which is hollowed out and ridged with hard chitinous edges. These working upon the roughened base of the cephalothorax, or carapace, produce, or are credited with the production of, stridulations which may be used as a call note for the female or as a warning signal to enemies.

Since my last communication to your Society, numerous examples of *Atypus piceus*, Sultzer, have been forwarded from Sark.

This species, however, should now bear the name of *Atypus affinis*, Eichwald. A thorough investigation of the question which has led to the compilation of a monograph of the genus, as yet however unpublished, has convinced me that we do not know, and shall probably never know, what the true *Atypus piceus* of Sultzer was, or *A. sultzeri* of Latreille. This being so *affinis*, Eichwald, is the first name attached to a species which can be recognised by the description. This is that form which prevails throughout England and in the Channel Islands. A fine example of the adult male of *affinis* has just come to hand from Alderney.

Atypus beckii O. P. Cambr., is the first name given to a recognisable description, the type moreover being in existence, of that form commonly known as *piceus*, Sultzer. The type was supposed to have been taken at Hastings by the late Richard Beck. This may be so, but although plenty of the other species *affinis* occurs there, no other example of this well-known continental form has since been taken in the district.

Another example of the interesting *Scytodes thoracica*, Latr., has been taken in Guernsey by Mr. Luff.

Two species only of spiders have hitherto been recorded from the Island of Alderney, *Xysticus bifasciatus* and *Oxyptila praticola*, so that the total number now known as frequenting that island is 23, not including an interesting Phalangid or "Harvest-man," *Sclerosoma romanum*, L. Koch, which was found in the collection. The following is a list of the species taken by Mr. Marquand.

FAM. **THERAPHOSIDÆ.**

Atypus affinis, Eich.

FAM. **DYSDERIDÆ.**

Harpactes hombergii, Scop.

FAM. **DRASSIDÆ.**

Drassodes cupreus, Blk.
D. pubescens, Thor. New to the Channel Islands.

FAM. **CLUBIONIDÆ.**

Micaria pulicaria, Sund.

FAM. **PHOLCIDÆ.**

Pholcus phalangioides, Fuessl.

FAM. **THERIDIIDÆ.**

Asagena phalerata, Panz.
Theridion lineatum, Clk.

FAM. **ARGIOPIDÆ (EPEIRIDÆ).**

Tetragnatha extensa, Linn.
Araneus adiantus, Wlk. (Epeira adianta, Wlk.)
A. diadematus, Clk. (Epeira diademata, Auct.)

FAM. **THOMISIDÆ.**

Xysticus cristatus, Clk.
X. erraticus, Blk.

FAM. **LYCOSIDÆ.**

Lycosa picta, Hahn.
Pardosa nigriceps, Thor.
P. monticola, C. K.
P. prativaga, L. K. New to the Channel Islands.

FAM. **ATTIDÆ.**

Epiblemum scenicum, Clk.
Heliophanus cupreus, Wlk.
H. flavipes, C. K.

FAM. **DICTYNIDÆ.**

Amaurobius similis, Blk.

ORDER PHALANGIDEA.

FAM. **PHALANGIIDÆ.**

Sclerosoma romanum, L. Koch.

THE SUNSHINE OF GUERNSEY FOR 1899.

BY MR. A. COLLENETTE, F.C.S., F.R. MET. SOC.

I NOW have six years' sunshine recorded. It is still too small a period for an average, so that it will be necessary for us to remember that fact while drawing conclusions from the comparison of the mean of the six years and the sunshine of 1899.

The year 1899 has been the sunniest we have so far recorded, having exceeded 1898, the next sunniest, by 124 hours. The following months were sunnier in 1899 than in any of the previous years: February, March, June, July and August. Only one month has been less sunny than in the previous years, viz.: April. The sunniest month of the whole period was last July, when 339·93 hours were recorded, as 484 hours is the number of hours in July during which the sun is above the horizon, it follows that the month gave us 70% of the possible sunshine.

TABLE I.

SUNSHINE AT BEAULIEU, HAUTEVILLE, GUERNSEY, 1899.

Months.	Hours.		Sunless Days.	Percentage of Possible Sunshine.	Compared with the Six Years' Mean.		Possible Sunshine
	Monthly Totals.	Accumulative.			Above.	Below.	
January	49·12	49·72	8	18	—	5·43	269·20
February	118·90	168·62	5	40	24·59	—	294·39
March	209·90	377·52	0	59	55·79	—	367·59
April	156·26	534·78	3	38	73·22	—	408·58
May	245·55	780·33	1	52	—	10·40	472·79
June	314·37	1094·70	0	65	36·24	—	481·30
July	339·93	1434·63	0	70	56·13	—	484·46
August	325·57	1760·20	0	73	76·51	—	442·64
September	185·71	1945·91	1	49	—	2·10	376·74
October	152·57	2098·48	2	45	40·82	—	331·43
November	73·86	2172·34	11	27	0·46	—	271·07
December	41·94	2214·28	12	16	—	2·43	255·15
The year	2214·28	2214·28	43	49	243·40	—	4454·82

Taking the year as shown on this table, I think we may doubt if a sunnier year will be met with in the future.

The year 1894 gave 38% of the possible; 1896, 41%; 1897, 42%; 1895, 46%; 1898, 47%, and 1899, 49%. You will thus perceive that the sunshine is shown to have been increasing during the short period under review.

TABLE II.

SIX YEARS' RECORD OF SUNSHINE IN GUERNSEY.

	1894.	1895.	1896.	1897.	1898.	1899.	Mean.	Highest.	Lowest.
January	64·85	63·28	39·91	42·44	66·71	49·72	55·15	1898	1896
February	87·02	111·26	98·92	63·79	85·95	118·90	94·31	1899	1897
March	196·77	168·08	110·10	146·59	93·24	209·90	154·11	1899	1898
April.....	191·77	191·21	171·41	163·29	224·33	156·26	183·04	1898	1899
May	230·01	309·74	307·02	239·85	204·35	245·55	255·95	1895	1898
June	215·31	294·50	301·86	269·29	273·48	314·37	278·13	1899	1894
July	187·20	254·61	277·73	305·62	337·73	339·93	283·80	1899	1894
August.....	186·43	244·84	234·20	239·19	265·15	325·57	249·06	1899	1894
September ..	155·16	269·41	107·28	142·23	267·07	185·71	187·81	1895	1896
October	91·86	91·35	85·18	120·74	128·79	152·57	111·75	1898	1896
November ..	74·53	62·10	68·96	66·30	94·62	73·86	73·40	1898	1895
December....	44·20	17·95	38·12	75·15	48·99	41·94	44·37	1897	1895
Year.....	1724·41	2068·93	1825·56	1874·48	2090·41	2214·28	1970·88	1899	1894

The second table gives you the detail, and from it you will see that no fewer than four years break the record. Sometimes we learn a good deal from averages. For instance, if I mass the years in three, thus :—

1894, 1895 and 1896, they give a mean of 1,872 hours, or 42°/₀ of the possible sunshine.

1895, 1896 and 1897 give 2,022 hours, or 45°/₀
1896, 1897 and 1898 give 2,043 hours, or 46°/₀
1897, 1898 and 1899 give 2,056 hours, or 47°/₀

showing a progressive rise in the sunshine.

The least sunshine of the whole six years was December, 1895, when but 18 hours were recorded, or only 7°/₀ of the possible.

A good method of comparison is also found in the number of sunless days that I gave for five years last year, and I now add the sixth year, which is, in this respect, by far the best.

TABLE III.

SUNLESS DAYS, ACTUAL AND AVERAGE.

Months.	1894.	1895.	1896.	1897.	1898.	1899.	Six Years' Average.
January	10	8	15	9	14	8	10
February	6	6	7	11	3	5	6
March	0	2	7	1	5	0	2
April	0	1	3	3	0	3	2
May	2	0	0	2	1	1	1
June	0	0	0	1	0	0	0
July	2	0	0	0	0	0	0
August	3	0	1	3	0	0	1
September	1	0	3	5	1	1	2
October	4	5	5	5	3	2	4
November	10	9	8	6	7	11	8
December	11	19	12	7	6	12	11
The year....	49	50	61	53	40	43	47

The highest amount of sunshine in a single day occurred on both the 31st of May and the 11th of June, viz. : 14·50 hours. But these do not possess the same possible hours, consequently they stand as 91°/₀ for the 31st of May, and 90°/₀ for the 11th of June. Last year this was beaten by the record of July 7th, which gave 15 hours with 94°/₀.

The average and mean daily sunshine for the months was as follows :—

TABLE IV.

Hours.		
	Average.	Mean of Six Years.
January	1·6	1·7
February	4·2	3·0
March	6·8	4·9
April	5·2	6·1
May	7·9	8·2
June	10·5	9·2
July	10·9	9·1
August	10·5	8·1
September	6·2	6·2
October	4·9	3·6
November	2·4	2·4
December	1·3	1·4
The year....	6·0	5·4

In studying the comparison between Jersey and Guernsey we are struck with the great differences in the months, and with the agreement of the years, totals and means.

Jersey expects 27°/₀ of the possible sunshine and Guernsey only 20°/₀ in the month of January, whereas in the month of July Jersey expects 48°/₀ and Guernsey 58°/₀. The first three months of the year Jersey has the advantage, as its average is 35°/₀ and Guernsey 33°/₀. In the last three months Jersey's advantage is 3°/₀. In the summer the advantage lies with Guernsey, and the year works out to Guernsey's advantage with an average of 1,971 hours to Jersey's 1,930 hours.

Now let us see how 1899 varied from these averages. The first three months gave Guernsey the advantage, for we obtained 40°/₀ against Jersey's 36°/₀, and during the last three months Guernsey lost what it had gained, the year finishing with the advantage of Guernsey of one hour only.

TABLE V.

COMPARISON BETWEEN JERSEY AND GUERNSEY,

Giving the mean Sunshine for each Month and the whole Year, and that of 1899, in hours and percentages of the possible.

	January.		February.		March.		First Three Months.		April.		May.		June.		Second Three Months.		Half Year.	
	Hours.	Percentages.	Hours.	Percentages.	Hours.	Percentages.	Hours.	Percentages.	Hours.	Percentages.	Hours.	Percentages.	Hours.	Percentages.	Hours.	Percentages.	Hours.	Percentages.
JERSEY.																		
Average ..	71	27	95	34	160	44	326	35	196	48	249	53	243	51	688	51	1014	44
1899.....	54	20	74	25	203	55	331	36	212	52	193	40	310	64	715	52	1045	45
GUERNSEY.																		
Average ..	55	20	94	32	154	42	303	33	183	45	256	54	278	57	717	52	1020	44
1899.....	50	18	119	40	210	57	378	40	156	38	245	52	314	65	716	52	1094	47

	July.		August.		Sept.		Third Three Months.		October.		Nov.		Dec.		Fourth Three Months.		Whole Year.	
JERSEY.																		
Average ..	230	48	241	55	183	49	654	51	127	39	71	26	62	25	260	30	1930	44
1899.....	334	69	309	70	212	56	855	65	168	51	83	30	62	25	313	36	2213	49
GUERNSEY.																		
Average ..	284	58	249	56	188	50	721	55	112	34	73	27	45	17	230	27	1971	45
1899.....	340	70	326	73	186	49	842	64	152	46	74	27	42	16	268	31	2214	49

The sunshine for Jersey is taken from the "Weekly Weather Reports"; the mean from the "Daily Weather Reports Summary, 1896."

I have one more comparison—that of Guernsey with several English towns.

TABLE VI.

Comparison between the English Towns named and Guernsey Hours and Percentages for the Year.

Town.	Hours.	Percentage of Possible.	Guernsey Excess in Hours.
London.....	1441	26	773
Oxford	1775	40	439
Southampton	1995	45	219
Plymouth.....	1958	44	256
Guernsey	2214	49	—

THE INSECTS OF ALDERNEY.

BY MR. W. A. LUFF.

In the Transactions for 1897, I published a list of the Insects of Alderney as far as then known.

Through the kindness of Mr. E. D. Marquand, who has taken up his residence in Alderney, with a view to study the Flora more particularly, I am now able to present a much more complete list.

Mr. E. D. Marquand was ably assisted by his brother, Mr. E. P. Marquand, in the collection of specimens.

The additions outnumbering the original list, I have thought it advisable to publish a complete catalogue of the Insects now known to occur in the island.

Four additions have been made to the Butterflies; of these *Satyrus Semele*, the grayling, is very local, being observed only on the cliffs near Essex Castle and on the lower part of Butes Hill. On June 17th whilst on a visit to the island I captured two specimens, male and female, both being variations from the usual type, the male being destitute of the usual spots on the upper wings, and the female with an additional spot. Several specimens were taken by Mr. Marquand, later on, but these proved to be of the normal type.

The additions to the Moths are very interesting; *Sesia musciformis* was common on the coast and a specimen of *Sesia ichneumoniformis* was also taken. A number of larvæ of *Odonestis potatoria* were found on the slopes of Essex Castle and some fine specimens of the moth were bred from them. Mr. Marquand saw several specimens of *Callimorpha Hera*, but having no net with him at the time did not capture them. A specimen of *Liparis salicis*, the Satin Moth, was taken in August; it is not known to occur in Guernsey.

The Coleoptera or Beetles now number 120 species, many of them being of special interest. *Rhizotrogus æstivus* is not on the British list. Several specimens of a curious variety of the non-British *Cryptocephalus vittatus* having no yellow stripe on the elytra, were taken in company with the

type. The fine burying beetle *Necrophorus germanicus*, is very rare in Britain.

Hoplia philanthus was abundant on flowers on the cliffs in June. It has not been observed in Guernsey for many years.

Two males of the curious beetle *Drilus flavescens* were captured. A single specimen of *Timarcha lævigata*, the large bloody-nosed beetle, was taken in May. This is an interesting capture, as although it is one of the commonest beetles in the South of England, its absence from Guernsey has often been remarked. *Meloe brevicollis*, one of the rarest of British beetles, also occurred.

The hot and dry summer was very favourable for the *Aculeate Hymenoptera*, hence the list of this order is a very large one, no less than 65 species have been added to those previously recorded.

Mr. E. Saunders, F.L.S., who kindly examined and named the specimens, remarks that "they are a very English lot; only one species, *Andrena flessæ*, has not been taken in England." He says "the dark undersided form of *Bombus Smithianus* is of special interest, as most our southern specimens are pale beneath, in fact, I have never seen one that is not, but I do not know what the earlier recorded specimens were like (*i.e.*, from Scilly, &c.). The Scotch ones are nearly all black beneath."

Other interesting species are *Gorytes campestris*, which is rare and local in England, *Nysson trimaculatus*, a rare little species which has the curious habit of falling to the earth and feigning death when alarmed. Two rare species of burrowing bees (*Colletidæ*) make their burrows from 8 to 10 inches in length in the sand banks, sometimes forming extensive colonies. *Andrena nigriceps* is a rare species. Two species of Cilissa, *C. melanura* and *C. leporina*, are worth noting as they have not been captured in Guernsey. The former was only discovered in England a year or two ago. Two species of *Cælioxys*, *C. rufescens* and *C. vectis* are also absent from the Guernsey list.

Of a neglected section of the Hymenoptera, the *Ichneumonidæ*, nineteen species have been named by Mr. Claude Morley, F.E.S., one of the very few students of this family in England.

No doubt the list of *Hemiptera* can be greatly increased, but a fair number have been captured, many of them rare or local in England.

One species *Peribalus vernalis* is extremely rare in Britain, and Mr. E. Saunders remarks in his "British

Hemiptera" "that its right to a place in the British list depends on a very few specimens taken years ago."

The rare and beautiful *Therapha hyoscyami* is much commoner in Alderney than in Guernsey.

The *Orthoptera* and *Neuroptera* do not appear to be numerous in species. Several immature specimens of the great green grasshopper were captured near the pond on Longy Common.

Blatta orientalis, the common cockroach, has found its way to Alderney, two being taken in the house by Mr. Marquand.

In the previous list it was remarked that no dragon flies had been captured, but one had been seen by the Rev. F. A. Walker.

Mr. Marquand saw about half-a-dozen and succeeded in capturing a specimen, which turns out to be *Sympetrum fonscolombii*, one of the rarest British species.

The following insects mentioned on the list have not been recorded for Guernsey :—

Lepidoptera.

Chærocampa porcellus.
Liparis salicis.
Pelurga comitata.
Peronea schalleriana.
P. aspersana.
Penthina sellana.
Sericoris littoralis.
S. cespitana.
S. urticana.
Bactra lanceolana.
Symæthis fabricana.
Eupœcilia atricapitana.
E. angustana.
Argyrolepia zephyrana.
Tinea imella.
T. ferruginella.
T. „ var. Herringii.
T. nigripunctella.
Swammerdamia pyrella.
Depressaria alstrœmeriana.
Gelechia villella.
G. instabilella.
G. terrella.
Lithocollitis faginella.

Hemiptera.

Podops inunctus.
Berytus signoreti.
Drymus pilicornis.
Derephysia foliacea.
Salda cocksii.
Chorosoma Schillingi.
Drymus pilicornis.
Lopus sulcatus.
Plagiognathus arbustorum.
Doratura stylata.

Neuroptera.

Sympetrum fonscolombii.

Coleoptera.

Xantholinus longiventris.
Necrophorus germanicus.
Silpha lævigata.
Choleva intermedia.
Saprinus nitidulus.
S. maritimus.
Rhizotrogus æstivus.
Drilus flavescens.
Timarcha lævigata.
Apion hydrolapathi.
Otiorrhynchus ovatus.
Tanymecus palliatus.
Phyllobius uniformis.
Sitones humeralis.
Barypeithes brunnipes.

HYMENOPTERA.

Mutilla rufipes.
Tiphia femorata.
Pompilus pectinipes.
Salius pusillus.
Tachytes pectinipes.
Gorytes campestris.
Nysson trimaculatus.
Mellinus sabulosus.
Crabro planifrons.
Odynerus quadratus.
Colletes fodiens.
C. picistigma.
C. Daviesana.
Halictus quadrinotatus.
Andrena pilipes.
A. nigriceps.
A. nana.
A. Wilkella.
Cilissa melanura.
C. leporina.
Nomada jacobææ.
N. lineola.
Cœlioxys vectis.
C. rufescens.
Megachile centuncularis.
Psithyrus vestalis.
Bombus Derhamellus.
Tenthredo atra.
Allantus arcuatus.
Hylotoma cyaneocrocea.
Strongylogaster cingulatus.

DIPTERA.

Chrysotoxum bicinctum.

To the great zeal and energy displayed by Mr. E. D. Marquand and his brother, Mr. E. P. Marquand, in collecting, we are indebted for more than 300 additions to the previous list, the number of species of insects now recorded for Alderney being 519. The additions to the previous list are marked with an *.

In conclusion I have here great pleasure in acknowledging the kind assistance rendered in examining and naming all the species, of which I felt doubtful, by the Rev. E. N. Bloomfield, M.A., F.E.S., Messrs. Edward Saunders, F.L.S., F.E.S., C. G. Barrett, F.E.S., Claude Morley, F.E.S., G. C. Champion, F.Z.S., and R. McLachlan, F.R.S.

LIST OF ALDERNEY INSECTS.

LEPIDOPTERA.

RHOPALOCERA (Butterflies).

PIERIDÆ.

Pieris brassicæ, *L.* Two specimens, June, 1873. Fairly common in 1897. Rev F. A. Walker. Common in 1899. E. D. M.

P. rapæ, *L.* Abundant. Mr. Marquand captured the smallest specimen I have seen, measuring only one inch and a quarter across the wings.

Colias edusa, *Fb.* One specimen sent me in 1868, when they were common. They were again extremely abundant in 1892. One seen on the cliffs August 12th, 1899.

***Gonopteryx rhamni,** *L.* One specimen captured by Mr. E. D. Marquand, August 19th, 1899, on the Blaye, near the cliffs.

NYMPHALIDÆ.

Melitæa cinxia, *L.* Plentiful in Trois Vaux Valley, June, 1873, they had then been out some time and were much worn. Mr. Marquand says the first specimen seen in 1899 was on May 28th.

Vanessa urticæ, *L.* Saw one specimen on June 30th, 1873. Two seen by Rev. F. A. Walker in 1897. Several observed in 1899.

***V. io,** *L.* A fine specimen was seen by Mr. E. D. Marquand on August 18th at Platte Saline, and Captain Hasted informed him that he had on two previous occasions seen this species in Alderney.

V. atalanta, *L.* Captured specimens in 1873 and 1892. Five or six seen in 1897 by Rev. F. A. Walker. Common in August, 1899.

V. cardui, *L.* Extremely abundant, especially on thistle flowers, August, 1892. Not common in 1899. About ten specimens seen during the summer.

SATYRIDÆ.

Pararge megæra, *L.* Two specimens captured in 1873, one of these has a beautiful bi-pupilled eye spot. Common in 1899.

***Satyrus semele,** *L.* Local but not uncommon on cliffs near Essex Castle, and also on the lower part of Butes Hill. Two taken on June 17th are good varieties.

Epinephele ianira, *L.* Extremely abundant.

LYCŒNIDÆ.

Lycæna icarus, *Rott.* Abundant.

***L. astrarche,** *Bgstr.* Common on the cliffs.

Polyommatus phlæas, *L.* Several taken in 1873. Three specimens seen in 1899, one in May, one on July 13th and one August 10th.

HETEROCERA.

SPHINGIDÆ.

Acherontia atropos, *L.* Common in some seasons. Mr. Marquand sent me a full fed larva on June 15th, 1899.

Sphinx convolvuli, *L.* Received a specimen of the perfect insect in 1868, also a larva in 1875, which was described by Mr. Edward Newman in the *Entomologist* for November 1875.

Chærocampa porcellus, *L.* Mentioned by Rev. F. A. Walker (*Entomologist*, May 1888) as being captured in Alderney on June 9th, 1860.

Deilephila euphorbiæ, *L.* One solitary wing of this species was picked up on a common by Rev. F. A. Walker, July 9th, 1860 (*Entomologist*, May, 1888).

Macroglossa stellatarum, *L.* Two specimens captured, June, 1873. Taken in 1897 by Rev. F. A. Walker. Abundant in 1899.

SESIIDÆ.

***Sesia ichneumoniformis,** *Fb.* One specimen taken by Mr. E. D. Marquand, 1899.

***S. musciformis,** *View.* Not uncommon on the coast.

ZYGÆNIDÆ.

Zygæna trifolii, *Esp.* Local, but seen in many localities, both in the higher and lower parts of the island.

BOMBYCES.

LITHOSIIDÆ.

***Lithosia lurideola,** *Zinck.* Several taken in 1899. E. D. M.

EUCHELIIDÆ.

Euchelia jacobææ, *L.* Abundant.

***Callimorpha Hera,** *L.* Several specimens seen by Mr. E. D. Marquand, 1899.

CHELONIIDÆ.

Arctia caja, *L.* Took four specimens in June, 1873. Mr. Marquand found the larvæ commonly in May, 1899.

A. villica, *L.* Common.

A. fuliginosa, *L.* Not uncommon, taken in 1873 and 1892.

A. lubricipeda, *Esp.* Very common.

A. menthrasti, *Esp.* Several taken June, 1873, not uncommon, June, 1899.

HEPIALIDÆ.

***Hepialus sylvanus,** *L.* One specimen taken by Mr. E. D. Marquand, August, 1899.

LIPARIDÆ.

Liparis auriflua, *Esp.* Larvæ on hawthorn, June, 1873. Both larvæ and perfect insects taken in 1899. E. D. M.

***Leucoma salicis** *L.* One specimen taken August, 1899.

BOMBYCIDÆ.

Bombyx trifolii, *Esp.* The larvæ were common around the coast in June, 1873, took about fifty in two hours. Not uncommon in 1899.

***Odonestis potatoria,** *L.* Mr. Marquand found the larvæ common on the slopes leading up to Essex Castle, 1899.

DEPRAMILIDÆ.

***Cilix glaucata,** *Scop.* Four captured 1899.

NOCTUÆ.

BRYOPHILIDÆ.

Bryophila perla, *Fb.* Common.

BOMBYCOIDÆ.

***Acronycta rumicis,** *L.* Several larvæ taken by Mr. E. D. Marquand, 1899.

LEUCANIIDÆ.

***Leucania lithargyria,** *Esp.* Several captured August, 1899.

APAMEIDÆ.

Xylophasia polyodon, *L.D.L.* Common.

***Cerigo matura,** *Hufn.* One specimen, 1899.

Mamestra brassicæ, *L.* Common.

***Apamea didyma,** *Esp.* One, June, 1873. One, 1899.

Miana strigilis, *Clerck.* Not uncommon.

CARADRINIDÆ.

***Caradrina superstes,** *St.* One, August, 1899.

NOCTUIDÆ.

Agrotis segetum, *Schiff.* Common.

***Noctua plecta,** *L.* One, 1899.

***N. rubi,** *View.* One specimen, 1899.

***N. xanthographa,** *Fb.* Several captured, August, 1899.

Triphæna pronuba, *L.* Common.

HADENIDÆ.

Dianthœcia nana, *Rott.* (*conspersa*). Found several larvæ on Ragged Robin (*Lychnis flos-cuculi*), June, 1873. Mr. E. D. Marquand captured an imago, July, 1899.

Euplexia lucipara, *L.* Several captured, June, 1873.

Phlogophora meticulosa, *L.* Common.

XYLINIDÆ.

Cucullia umbratica, *L.* Several taken, 1873.

PLUSIIDÆ.

Plusia gamma, *L.* Common in some seasons; particularly abundant, August, 1873. Not common in 1899.

HYPENIDÆ,

***Hypena proboscidalis,** *L.* Common.

GEOMETRÆ.

ENNOMIDÆ.

Rumia cratægata, *L.* Not uncommon.

BOARMIIDÆ.

***Boarmia rhomboidaria,** *Hb.* One specimen, July, 1899.

Gnophos obscuraria, *H.B.* Took one specimen, August, 1892.

ACIDALIIDÆ.

***Acidalia dimidiata,** *Hufn.* One, June, 1899.

***A. bisetata,** *Hufn.* Not uncommon.

A. subsericeata, *Haw.* Several on the west coast, June, 1873.

***A. marginepunctata,** *Göze.* Not uncommon.

FIDONIIDÆ.

Aspilates ochrearia, *Rossi* (*citraria*, H.B.). Common near the coast, June, 1873; August, 1892; June, 1899.

ZERENIIDÆ.

Abraxas grossulariata, *L.* Pupæ abundant on gooseberry and currant bushes, June, 1873.

LARENTIIDÆ.

Emmelesia decolorata, *H.B.* Common, June, 1873.

***Eupithecia oblongata,** *Thnb.* Several taken on Longy Common, June, 1899.

***E. subfulvata,** *Haw.* One, July, 1899.

Melanthia ocellata, *L.* One, June, 1873.

***Melanippe rivata,** *H.B.* One, August, 1899.

***M. fluctuata,** *L.* Not uncommon.

Coremia ferrugata, *Clerck*, *L.* Common.

Camptogramma bilineata. *L.* Abundant.

Cidaria truncata, *Hufn.* Not uncommon.

Pelurga comitata, *L.* One fine specimen, June, 1873.

EUBOLIIDÆ.

Eubolia limitata, *Scop.* One, August, 1892. One, August, 1899.

E. peribolata. This pretty non-British geometer was not uncommon amongst furze on the cliffs, August, 1892.

PYRALIDES.

PYRALIDIDÆ.

Cledeobia angustalis, *Schiff.* Common.

Aglossa pinguinalis, *L.* One in an outhouse, August, 1892. One, 1899.

***Scoparia dubitalis,** *H.B.* (*pyralella*), var *ingratella.* Three taken, July, 1899.

***S. lineolea,** *Curt.* One, July, 1899.

Nomophila noctuella, *Schiff* (*Stenopteryx hybridalis*, H.B.). Common on the cliffs.

***Herbula cespitalis,** *Schiff.* One.

Endotricha flammealis, *Schiff.* Common.

BOTYDÆ.

Eurrhypara urticata, *L.* Not uncommon.

***Scopula prunalis,** *Schiff.* Common.

Botys verticalis, *W.V.* (*ruralis*, Scop.). Very common. In July and August this species is by far the commonest moth in hedges at twilight.

***Ebulea crocealis,** *Hb., Tr.* Two specimens, August, 1899.

***Pionea forficalis,** *L.* Common.

***Stenia punctalis,** *Schiff.* Three specimens, July, 1899.

PTEROPHORI.

PTEROPHORIDÆ.

***Mimæseoptilus fuscus,** *Retz.* One.

***Pterophorus pterodactylus,** *Hb.* Several specimens taken, July, 1899.

Aciptilia pentadactyla, *L.* One specimen, E. D. M. Also recorded by Rev. F. A. Walker.

ALUCITIDÆ.

***Alucita polydactyla,** *Hb.* One.

CRAMBI.

CRAMBIDÆ.

***Crambus pratellus,** *L.* Two.

***C. tristellus,** *Fb.* Common.

***C. hortuellus,** *Hb.* Common.

PHYCIDÆ.

***Homœosoma sinuella,** *Fb.* One.

***H. nimbella,** *Dup.* One, Platte Saline, June.

GALLERIDÆ.

***Aphomia sociella,** *L.* One.

TORTRICES.

TORTRICIDÆ.

***Tortrix heparana,** *Schiff.*

T. rosana, *L.* One, 1872.

PENTHINIDÆ.

***Penthina cynosbana,** *H.B.* Common.

***P. sellana,** *Hb.* Two.

SERICORIDÆ.

Aspis udmanniana, *L.* Common.

***Sericoris urticana,** *Hb.* Not rare.

*Sericoris lacunana, *Dup.* Several captured.
*S. cespitana, *Hb.* Two.
*S. littoralis, *Curt.*

SCIAPHILIDÆ.

*Sciaphila subjectana, *Gn.* Abundant.
*Sphaleroptera ictericana, *Haw.*

GRAPHOLITHIDÆ.

*Bactra lanceolana, *Hb.* Common.
*Dicrorampha plumbagana, *Tr.* Two.
*Catoptria ulicetana, *Haw.* Abundant.
*C. cana, *Haw.* Not common.

PYRALOIDIDÆ.

*Symæthis fabriciana, *St.* One.

CONCHYLIDÆ.

*Eupœcilia atricapitana, *St.* One.
*E. angustana, *Hb.* Several.
*Xanthosetia hamana, *L.* Two, Platte Saline, June.
*Argyrolepia zephyrana, *Tr.* One.
*Conchylis Francillana, *Fb.* One, June.

TINEÆ.

PSYCHIDÆ.

*Luffia lapidella, *Tutt.* Cases of this species were not uncommon on walls near the town.

TINEIDÆ.

*Scardia cloacella, *Haw.* One.
*Tinea imella, *Hb.* One.
*T. ferruginella, *Hb.* Common. The variety *Herringii* not uncommon.
*T. tapetzella, *L.* Several.
*T. nigripunctella, *Haw.* One.

HYPONOMEUTIDÆ.

*Swammerdammia pyrella, *Vill.* One.
*Hyponomeuta padellus, *L.* Not common. One colony of the larvæ found on hawthorn.

GELECHIIDÆ.

*Depressaria alstrœmeriana, *Clerck.* Two.
*D. heracleana, *De Geer.* Common.
*Gelechia vilella, *Zell.* One.
*G. instabilella, *Doug.* One.
*G. terrella, *H. B.* Several.
*Glyphipteryx thrasonella, *Scop.* One.

ELACHISTIIDÆ.

*Elachista cygnipennella, *Hb.* Common.

LITHOCOLLETIDÆ.

*Lithocolletis faginella, *Mann.*

HEMIPTERA-HETEROPTERA.

PENTATOMIDÆ.

***Odontoscelis fuliginosa,** *Linn.* Immature specimens were not uncommon on sandhills, Longy Common, near the shore, June, 1899.

Podops inuncta, *Fab.* Not uncommon. Has not been recorded for Guernsey.

***Geotomus punctulatus,** *Costa.* Abundant in sandy places near the coast, on Longy Common, June and July, 1899.

***Sciocoris cursitans,** *Fab.* Several specimens taken on sandbanks near coast of Longy Common, June, 1899.

Ælia acuminata, *Lin.* Three taken by sweeping on the cliffs, August 5th, 1892. One, September, 1897. One, July, 1899.

***Peribalus vernalis,** *Wolff.* One specimen, 1899. It is extremely rare in Britain.

Pentatoma baccarum, *Lin.* Very common.

Piezodorus lituratus, *Fab.* (*incarnatus*, Germ.) Not uncommon on furze.

Picromerus bidens, *Lin.* Two specimens on the cliffs near the Blaye, August 10th, 1892.

COREIDÆ.

***Syromastes marginatus,** *Lin.* Common.

***Verlusia rhombea,** *Lin.* Not uncommon on the cliffs.

***Coreus denticulatus,** *Scop.* Four specimens taken near the coast, July, 1899.

Stenocephalus agilis, *Scop.* One, August 9, 1892. Several, August, 1899.

***Therapha hyoscyami,** *Linn.* Common.

***Chorosoma schillingi,** *Schml.* One specimen of this curious species taken on Longy Common, 1899.

BERYTIDÆ.

Berytus signoreti, *Fieb.* Common by sweeping grass on Longy Common, August, 1892. This species has not yet been found in Guernsey.

Metacanthus punctipes, *Germ.* Very common on its food plant, *Ononis arvensis*.

LYGÆIDÆ.

***Lygæus punctato-guttatus.** One specimen of this pretty non-British species, July, 1899.

Ischnorhynchus geminatus, *Fieb.* Several specimens on heather on the cliffs, August, 1892.

Henestaris laticeps, *Curt.* Not uncommon.

***Heterogaster urticæ,** *Fab.* One specimen taken by Mr. Marquand, July, 1899. Has also been recorded as taken by Mr. J. E. Mason in August, 1898.

***Rhyparochromus chirargra,** *Fab.* Two specimens, July, 1899.

***R. prætextatus,** *H. Schf.* One, June, 1899.

***Plinthisus brevipennis,** *Latr.* Several on sandhills near the coast of Longy Common.

***Stygnus arenarius,** *Hahn.* Common.

***Lygæsoma reticulatum,** *H.S.* Several taken on the cliffs. Not found in England.

***Peritrechus geniculatus,** *Hahn.* One on the cliffs, June, 1899.

Aphanus lynceus, *Fab.* One specimen by sweeping on the cliffs, August, 1892.

A. quadratus, *Fab.* Not uncommon.

***Beosus luscus,** *Fab.* Three specimens taken on the cliffs.

Emblethis verbasci, *Fab.* Common near the coast. This species is rare in Britain, but common in the Scilly Islands.

Notochilus contractus, *H.S.* One specimen, August 7th, 1892. One, May, 1899.

Drymus pilicornis, *Muls.* Taken by Mr. J. E. Mason, August, 1898.

TINGIDIDÆ.

Derephysia foliacea, *Fall.* One specimen under a stone on Longy Common, August 5th, 1892. Not on the Guernsey list.

HYDROMETRIDÆ.

Hydrometra stagnorum, *Lin.* Common in small streams on cliffs near the Blaye, June, 1892; September 23rd, 1897.

***Velia currens,** *Fab.* Not uncommon.

REDUVIIDÆ.

***Nabis lativentris,** *Boh.* One specimen.

SALDIDÆ.

Salda Cocksii, *Curt.* One specimen near small stream on cliffs, September 23rd, 1897. Has not been taken in Guernsey.

CIMICIDÆ.

***Anthocoris sylvestris,** *Linn.* Common.

Triphleps minutus, *Lin.* Two specimens, 1892.

CAPSIDÆ.

***Miris lævigatus,** *Linn.* Common.

M. calcaratus, *Fall.* Not uncommon.

Megaloceræa ruficornis, *Fourc.* One, August 7th, 1892.

***Lopus sulcatus,** *Fieb.* One specimen, July, 1899.

Phytocoris ulmi, *Linn.* Several, 1892.

Calocoris chenopodii, *Fall.* Two specimens, August 8th, 1892. One specimen, July, 1899.

C. bipunctatus, *Fab.* Abundant in fields.

***Lygus pratensis,** *Fab.* One specimen, 1899.

Orthocephalus saltator, *Hahn.* Took five specimens by sweeping on cliffs, August, 1892.

Orthotylus marginalis, *Reut.* Two specimens near Essex Castle, August, 1892.

Hypsitylus bicolor, *D. & S.* One, August, 1892.

***Heterotoma merioptera,** *Scop.* Not uncommon.

***Plagiognathus arbustorum,** *Fab.* Common.

***P. viridulus,** *Fall.* Common.

HEMIPTERA-HOMOPTERA.

CICADÆ.

Philænus spumarius, *Lin.* Abundant.

P. lineatus, *Lin.* Swept several specimens near the cliffs, 1892.

Euacanthus interruptus, *Lin.* Common in Trois Vaux Valley.
Doratura stylata, *Boh.* Longy Common, 1892.
Thamnotettix dilutior, *Kbm.* Two specimens, September 23rd, 1897.
Chlorita flavescens, *Fab.* Not uncommon.
***C. viridula,** *Fall.* One specimen, 1899.
Eupteryx auratus, *Linn.* Several specimens, 1892.
***Zygina scutellaris,** *H.S.* Two, July, 1899.

COCCIDÆ.

Ripersia Tomlinii, *Newstead.* Abundant in the nests of a species of ant, *Lasius alienus*, under stones near the cliffs.

NEUROPTERA.

PSEUDO-NEUROPTERA.

PSOCIDÆ.

Cæcilius flavidus, *Steph.* One specimen by beating, 1892.
Eliposcus flaviceps, *McLach.* Common.

ODONATA (Dragon Flies).

***Sympetrum fonscolombii,** *Selys.* One specimen, a fine mature female, of this beautiful Dragon Fly was captured by Mr. E. D. Marquand near Longy Common early in July. It is extremely rare in Britain, and Mr. McLachlan thinks that as several were seen on this occasion, they very likely formed part of a migratory swarm.

Another species of Dragon Fly was also seen by Mr. Marquand flying round the elm trees in Scott's Valley, which, from its large size, was probably an *Anax* or an *Æschna*.

NEUROPTERA-PLANIPENNIA.

Chrysopa vulgaris, *Schn.* Took several specimens in different parts of the island. One is an unusual variety with dark antennæ, brown stigma, &c. 1892.
***C. flavifrons,** *Brau.* One specimen.

TRICHOPTERA.

Diplectronia felix, *McLach.* Two specimens, Trois Vaux Valley, August, 1892.
Beræa maurus, *Curt.* Common in small streams on cliffs.
Tinodes assimilis, *McLach.*
Agapetes fuscipes, *Curt.* Common near small cliff streams.

ORTHOPTERA.

EUPLEXOPTERA.

Forficula auricularia, *L.* Very common.

CUSORIA.

Ectobia Panzeri, *Steph.* Not uncommon on the cliffs.
E. livida, *Fab.* Common under stones on the cliffs. June.
***Periplaneta orientalis,** *L.* (Common Cockroach). One specimen captured in the house.

SALTATORIA.

***Phasgonura viridissima,** *L.* Several immature specimens near pond on Longy Common in June.

Platycleis grisea, *Fab.* Took one specimen on the cliffs, September 23rd, 1897.
Stenobothrus bicolor, *Charp.* Abundant everywhere.

COLEOPTERA.

GEODEPHAGA.

***Cicindela campestris,** *L.* Several seen ; one captured.
***Notiophilus biguttatus,** *F.* One.
***Leistus fulvibarbis,** *Dej.* Two.
***L. spinibarbis,** *L.* Taken by Rev. F. A. Walker, 1897.
Nebria brevicollis, *F.* Not uncommon.
***Broscus cephalotes,** *L.* Several.
***Panagæus quadripustulatus,** *St.* One.
***Harpalus æneus,** *F.*
***H. ruficornis,** *F.* Rev. F. A. Walker, 1897.
H. consentaneus, *Dej.* Common under stones.
***H. tardus,** *Panz.*
***H. anxius,** *Duft.* Common.
***H. neglectus,** *Dej.* One.
Zabrus gibbus, *F.* Taken in 1892.
***Anisodactylus binotatus,** *F.* Two.
***Pterostictus cupreus,** *L.* One.
P. mandidus, *F.* Common.
Amara apricaria, *Sturm.* Common.
***A. ovata,** *F.* Three.
***A. tibialis,** *Payk.* Not uncommon.
***A. lunicollis,** *Sch.* Several.
***A. trivialis,** *Gyll.*
A. lucida, *Duft.* Common.
Calathus melanocephalus, *L.* Abundant.
C. cisteloides, *Panz.* Taken in 1892.
C. flavipes, *Fourc.* One.
***Anchomenus dorsalis,** *Müll.* Common.
A. albipes, *F.* One in 1892.
***Olisthopus rotundatus,** *Payk.* One.
***Bembidium littorale,** *Ol.* Common in sandy places on the coast.
Metabletus foveola, *Gyll.* Common.

HYDRADEPHAGA.

***Hydrophorus pubescens,** *Gyll.* Several in quarry pool.
***H. palustris,** *L.* Two.
***Agabus bipustulatus,** *L.* Two.

CLAVICORNIA.

***Helophorus** (?) **æneipennis,** *Thoms.* One.
Anacæna limbata, *F.* One.
***Sphæridium scarabæoides,** *L.* Common.
S. bipustulatum, *F.* Not uncommon.

STAPHYLINIDÆ.

*Tachyporus hypnorum, *F.* Common.
*Quedius tristis, *Grav.* One.
*Q. rufipes, *Grav.*
*Creophilus maxillosus, *L.* One.
*Philonthus æneus, *Rossi.*
*P. politus, *F.*
*P. varius, *Gyll.*
*P. sordidus, *Grav.*
*Xantholinus longiventris, *Hur.*
*X. glabratus, *Grav.*
Pæderus littoralis, *Grav.* Common.
Stenus similis, *Herb.* Two on cliffs, 1892.
*S. providus, *Er.*

SILPHINA.

*Necrophorus germanicus, *L.* One found by Mr. Marquand crushed on a pathway. Rare in Britain.
*N. vespillo, *L.* Several under dead moles.
*Silpha tristis, *Ill.* Common.
*S. lævigata, *F.* Common.
*Choleva intermedia, *Kraatz.* One.

HISTERIDÆ.

*Carcinops minima, *Aube.* Common under stones.
*Saprinus nitidulus, *Payk.*
*S. æneus, *F.*
*S. maritimus, *Steph.*
*Meligethes æneus, *Fab.* Common.

COCCINELLIDÆ.

Coccinella 11-punctata, *L.* Common.
C. 7-punctata, *L.* Common.
Halyzia 22-punctata, *L.* Several on cliffs.
*Chilocorus bipustulatus, *Scrib.* On furze on cliffs.
Rhizobius litura, *F.* Common.

PARNIDÆ.

*Parnus prolifericornis, *L.* One.

SCARABÆIDÆ.

*Onthophagus vacca, *L.* Several.
*O. fracticornis, *Payk.* Common.
Aphodius fossor, *L.* Common.
*A. erraticus, *L.* Not uncommon.
A. hæmorrhoidalis, *L.*
A. fimetarius, *L.* Abundant.
*A. granarius, *L.* Rev. F. A. Walker, 1897.
A. punctato-sulcatus, *Sturm.* Common.
A. rufipes, *L.*
*Geotrupes stercorarius, *L.* One.

G. sylvaticus, *Panz.* Common.
G. vernalis, *L.* Common.
***Hoplia philanthus,** *Füss.* Common on flowers on the cliffs in June and July.
***Rhizotrogus æstivus.** One specimen of this non-British species captured by Mr. Marquand.
R. solstitialis, *L.* Common.
Melolontha vulgaris, *F.* Taken by Rev. F. A. Walker.

ELATERIDÆ.

***Lacon murinus,** *L.* Common.
Athous longicollis, *Ol.* One, August, 1892.
***A. hæmorrhoidalis,** *F.* Common.
***Agriotes lineatus,** *L.* Common.
***A. sputator,** *L.* Common.
***Corymbites quercus,** *Gyll.* Three.
***Melanotus puncto-lineatus,** *Pel.* Not uncommon.

DASCILLIDÆ.

***Microcara livida,** *F.* One.

LAMPYRIDÆ.

***Drilus flavescens,** *Rossi.* Two males.

TELEPHORIDÆ.

***Telephorus bicolor,** *F.*
Rhagonycha fulva, *Scop.* Common.
Psilothrix nobilis, *Ill.* Common on the cliffs.

PTINIDÆ.

Anobium domesticum, *L.* Common in houses.

PHYTOPHAGA.

***Lema melanopa,** *L.* One.
Cryptocephalus vittatus, *F.* Common on the cliffs; a variety also occurs without the yellow stripe down the centre of the elytra. I have not met with this variety in Guernsey.
Timarcha violaceo-nigra, *De G.* Common.
***T. lævigata,** *Duft.* Rare. One specimen taken. It has never been taken in Guernsey.
***Chrysomela hæmoptera,** *L.* Common on Longy Common.
Phytodecta olivacea, *Forst.* On the cliffs.
Prasocuris junci, *Brahm.* Several near small stream on cliff.
Sphæroderma testaceum, *F.*
***Longitarsus melanocephalus,** *All.*
***L. jacobææ,** *Wat.* Frequent on ragwort.
***Psylliodes chrysocephala,** *L.*
***Cassida nobilis,** *L.* One.

HETEROMERA.

***Crypticus quisquilius,** *L.* Abundant on Longy Common.
Opatrum sabulosum, *Gyll.* Not uncommon.

***Phaleria cadaverina,** *F.* Frequent.
***Cistela murina,** *L.* Common.
Cteniopus sulphureus, *L.* Abundant on the cliffs.
***Lagria hirta,** *L.* Common.
***Œdemera nobilis,** *Scop.* Not uncommon.
***O. lurida,** *Marsh.* Common.
***Notoxus monoceros,** *L.* Several.
***Meloe brevicollis,** *Panz.* One specimen of this rare species taken by Mr. Marquand.

RHYNCHOPHORA.

Apion ulicis, *Forst.* Common on furze.
A. miniatum, *Germ.*
A. rufirostre, *F.*
A. lævicolle, *Kirb.*
***A. hydrolapathi,** *Kirb.*
***Otiorrhynchus atroapterus,** *De G.*
***O. ovatus,** *L.* Three.
***O. sulcatus,** *F.* Common.
O. rugifrons, *Gyll.* Common.
***Tanymecus palliatus,** *Fab.* Several.
***Trachyphtæus scaber,** *L.* One on Longy Common, 1897.
***Phyllobius uniformis,** *Marsh.*
***Philopedon geminatus,** *F.* Not uncommon.
***Sitones hispidulus,** *Fab.*
***S. humeralis,** *Steph.*
S. suturalis, *Steph.*
Hypera punctata, *F.* Longy Common.
H. pollux, *F.*
H. nigrirostris, *F.* Common.
***Barypeithes brunnipes,** *Oliv.*
Orchestes alni, *L.* Not uncommon. One specimen of var. *ferrugineus.*
Mecinus pyrastii, *Herbst.*
***Ceuthorrhynchus assimilis,** *Payk.*
Ceuthorrhynchidius troglodytes, *F.* Common.
***Cœliodes 4-maculatus,** *L.*

HYMENOPTERA.

HETEROGYNA.

FORMICIDÆ.

***Formica fusca,** *Latr.* Not uncommon.
Lasius flavus, *De Geer.* Common.
L. niger, *Linn.* Race *Alienus.* Common, especially on the cliffs.
***Tetramorium cæspitum,** *L.* Not uncommon on the cliffs.
***Myrmica rubra,** *L.* Race *Scabrinodis,* Nyl.

FOSSORES.

MUTILLIDÆ.

***Mutilla rufipes,** *Latr.* Several females taken near the coast.

SCOLIDÆ.

Tiphia femorata, *Fabr.* One specimen, August 6th, 1892. Several, July and August, 1899.

POMPILIDÆ.

Pompilus chalybeatus, *Schiödte.* Very common.
***P. pectinipes,** *V. de L.* Two specimens.
***Salius pusillus,** *Schiödte.* Three captured on flowers on cliffs.
***Tachytes pectinipes,** *L.* Several captured on Longy Common.

SPEGIDÆ.

Ammophila sabulosa, *Linn.* Several on Longy Common in 1892.
***A. lutaria,** *F.* Not uncommon on Longy Common, 1899.
***Pemphredon Shuckardi,** *Moraw.* Three specimens taken.
***P. lethifer,** *Shuck.* One.
***Diodontus minutus,** *F.* Two.
***Gorytes campestris,** *L.* Two.
***Nysson trimaculatus,** *Rossi.* One in a quarry, June, 1899.
***Mellinus sabulosus,** *Fabr.* One specimen taken on the cliffs, August, 1899.
***Cerceris arenaria,** *L.* Not uncommon in sandy spots.
C. labiata, *F.* One on the cliffs, August 6th, 1892.
***Crabro elongatulus,** *V. de L.* Not uncommon.
***C. planifrons.** One specimen taken. Mr. E. Saunders remarks that this is the species called *planifrons* in the *Entomologist's Monthly Magazine* by Perkins, but it is doubtful if it is Thomson's species, also if it is *Sexcinctus.*
***C. cribrarius,** *L.* Common.

DIPLOPTERA.

VESPIDÆ.

***Vespa sylvestris,** *Scop.* Not common.

EUMENIDÆ.

***Odynerus parietum,** *L.* Not common.
O. pictus, *Curt.* Common.
O. quadratus, *Sm.* One specimen taken by the Rev. F. O. Walker, 1897.

ANTHOPHILA.

COLLETIDÆ.

***Colletes fodiens,** *Kirb.* Several specimens on ragwort.
***C. picistigma,** *Thoms.* One specimen on ragwort.
***C. Daviesana,** *Sm.* Two specimens on a sand bank.
***Prosopis hyalinata,** *Sm.* Common.

ANDRENIDÆ.

***Specodes subquadratus,** *Sm.* Common.
***S. similis,** *Wesm.* Not uncommon.
***S. dimidiatus,** *V. Hg.* Three specimens captured.
***S. affinis,** *V. Hag.* One, July, 1899.
***Halictus rubicundus,** *Christ.* Not uncommon.
***H. leucozonius,** *Schr.* Common.
***H. quadrinotatus,** *Kirb.* One specimen taken.

***Halictus cylindricus,** *F.* Common.
H. albipes, *Kirb.* Two specimens taken.
***H. villosus,** *Kirb.* Common.
***H. tumulorum,** *L.* Several.
***H. Smeathmannellus,** *Kirb.* One.
***H. morio,** *F.* Two.
***Andrena pilipes,** *F.* Not uncommon.
***A. thoracica,** *F.* Common.
***A. cineraria,** *L.* Two.
***A. flessœ.** Several captured.
***A. nigroænea,** *Kirb.* Common.
***A. Gwynana,** *Kirb.* One.
***A. angustior,** *Kirb.*
***A. nigriceps,** *Kirb.*
***A. fulvicrus,** *Kirb.* Abundant.
***A. cingulata,** *F.* One.
***A. nana,** *Kirb.* One.
***A. Wilkella,** *Kirb.*
***A. afzeliella,** *Kirb.*
***Cilissa melanura,** *Nyl.* Two specimens of this rare bee, which was first recorded as British in the *Entomologist's Monthly Magazine* for October, 1897.
C. leporina, *Panz.* One.
***Panurgus calcaratus,** *Scop.* Common.
***P. ursinus,** *Gmel.* Two.
***Nomada succincta,** *Panz.* Common.
***N. jacobææ,** *Panz.* Not uncommon.
***N. lineola,** *Panz.* Several.

APIDÆ.

***Epeolus productus,** *Thoms.* Common.
***Cœlioxys vectis,** *Curt.* Two on sand hills, Longy Common.
***C. rufescens,** *Lep.* One, sand hills near the sea, Longy Common.
***Megachile centuncularis,** *L.* Two.
Osmia rufa (?), *L.* Rev. F. A. Walker, 1897.
***O. aurulenta,** *Panz.* Common.
Anthidium manicatum, *L.* Not uncommon.
***Anthophora pilipes,** *F.* Two.
***Psithyrus vestalis,** *Foure.* One.
***Bombus Smithianus,** *White.* Not uncommon. These specimens are dark beneath, as in the Scotch forms. Those from the south of England are pale beneath.
B. hortorum, *L.* One, August, 1892.
***B. Derhamellus,** *Kirb.* Two, 1899.
B. lapidarius, *L.* Common.
B. terrestris, *L.* Common.

CHRYSIDIDÆ.

Chrysis ignita, *L.* Abundant and very variable.
***C. bidentata,** *L.* One.
***Hedychridium ardens,** *Coq.* One.

ICHNEUMONIDÆ.

*Ichneumon vaginatorius, *Lin.* Common.
*Exophanes exulans, *Gr.* Two males.
*Amblyteles castigator, *Fab.* One male.
*Phygadeuon curvus, *Schr.*
*Cryptus spinosus, *Gr.*
*C. viduatorius, *Fab.* Two females.
*Henicospilus repentinus, *Holmgr.* This is the only rare British species of the genus.
*Paniscus cephalotes, *Holmgr.* Well known as the parasite of *Dicranura vinula.*
*Collyria calcitrator, *Vill.* Common. The well-known parasite of *Cephus pygmæus.*
*Exetastes osculatorius, *Fab.* One of our most beneficial insects. It preys upon the destructive caterpillars, *Mamestra brassicæ*, &c.
*Banchus falcator, *Fab.*
*Triclistus (Exochus) podagricus, *Gr.*
*Exochus geniculatus, *Holmgr.* One female. Not in the British list.
*Bassus lætatorius, *Fab.* Probably abundant.
*B. tarsatorius (?), *Panz.* This species is not in the British list.
*Metopius dentatus, *Gr.* One specimen, Rev. F. A. Walker, 1897.
*Pimpla instigator, *Fab.* Common.
*P. calobata (?), *Gr.*
*Lissonota bellator, *Gr.* Common.

BRACONIDÆ.

*Microgaster sticticus, *Fab.*

TENTHREDINÆ.

*Tenthredo atra, *L.* One.
*Tenthredopsis nigricollis, *Cam.* Common.
Allantus arcuatus, *Forst.* Rev. F. A. Walker, 1897; also two in 1899.
*Dolerus fissus, *Htg.* One.
*Selandria stramineipes, *Klug.* Common
S. serva, *L.* Island of Burhou, June 2nd, 1897. One specimen, Rev. F. A. Walker.
*Blennocampa fuliginosa, *Sch.* One.
*Athalia rosæ, *L.* One.
*Hylostoma cyaneocrocea, *Foure.* Not uncommon.
*Strongylogaster cingulatus, *Fab.* One, a curious variety.
*Cephus pygmæus, *Linn.* Several.

DIPTERA.

MYCETOPHILIDÆ.

Sciara Thomæ, *L.* One on cliffs, August 6th, 1892.

BIBIONIDÆ.

Bibio Marci, *L.* (St. Mark's Fly). Not uncommon.
*Bibio hortulanus, *L.* Abundant, especially the females, on *Angelica* in meadows adjoining Longy Road. Rev. F. A. Walker, 1897.

PTYCHOPTERIDÆ.

Ptychoptera albimana, *F.* One, Longy Common, September 23rd, 1897. One, June, 1899.

***Amalopis littoralis,** *Mg.* Two.

TIPULIDÆ.

Tipula gigantea, *Schrk.* Rev. F. A. Walker, 1897.

T. oleracea, *L.* Common.

STRATIOMYNÆ.

Chloromyia formosa, *Scop.* Not uncommon.

LEPTIDÆ.

Chrysopilus auratus, *F.* Two, 1899.

ASILIDÆ.

Asilus crabroniformis, *L.* This fine species is not uncommon.

***Dysmachus trigonus,** *Mg.* Footpath over downs to Fort Essex, 1897. Rev. F. A. Walker.

BOMBYLIDÆ.

Anthrax paniscus, *Rossi.* Abundant on August 6th, 1892, near Platte Saline Bay. Mr. Marquand took several specimens in 1899.

THEREVIDÆ.

Thereva annulata, *F.* Common in sandy places on Longy Common.

EMPIDÆ.

Empis livida, *L.* Two specimens on cliffs, August 22, 1892.

SYRPHIDÆ.

***Chrysogaster metallina,** *F.* Common.

***Pyrophæna ocymi,** *F.* Not uncommon.

***Syrphus ribesii,** *L.* One.

Chrysotoxum festivum, *L.* Not uncommon.

***C. bicinctum,** *L.* Three specimens.

Catabomba pyrastri, *L.* Rev. F. A. Walker, 1897.

***Sphærophoria scripta,** *L.* Not common.

Volucella bombylans, *L.* A specimen of each variety taken, 1899.

Eristalis sepulchralis, *L.* Several taken.

E. tenax, *L.* Common.

***E. æneus,** *Scop.* One taken.

E. arbustorum, *L.* Common.

***E. pertinax,** *Scop.* Common.

***Syritta pipiens,** *L.* Not uncommon.

CONOPIDÆ.

***Physocephala rufipes,** *F.* Three specimens captured.

TACHINIDÆ.

***Echinomyia fera,** *L.* Several captured in June and July.

***Olivieria lateralis,** *F.* Not rare.

SARCOPHAGIDÆ.

***Sarcophaga carnaria,** *L.* Common.
S. hæmorrhoidalis, *Mg.* Rev. F. A. Walker, 1897.

MUSCIDÆ.

Lucilia cæsar, *L.* Common.
Calliphora vomitoria, *L.* Common.
Musca domestica, *L.* Common.
M. corvina, *F.* Several taken, 1892 and 1899.
***Graphomyia maculata,** *Scop.* Several taken, May and June.
***Stomoxys calcitrans,** *L.* Not uncommon.

ANTHOMYIDÆ.

Polietes lardaria, *F.* Common in September, 1897.
Spilogaster (?) **communis,** *Dsv.* Common in Trois Vaux Valley, August, 1892.

CORDYLURIDÆ.

Scatophaga stercoraria, *L.* Common.

TRYPETIDÆ.

Acidia heraclei, *L.* Several specimens, August, 1892.

CHLOROPIDÆ.

Meromyza pratorum, *Mg.* Not uncommon.

PIOPHILIDÆ.

***Piophila casei,** *L.* Common.

LAMPIDES BŒTICA IN GUERNSEY.

(WITH A BRIEF ACCOUNT OF ITS LIFE HISTORY AND DISTRIBUTION.)

BY REV. F. E. LOWE.

One of the chief entomological events in Guernsey of 1899 must be reckoned the abundance of *L. Bœtica*. It has been known as an occasional visitor for many years, but never has it been observed in anything like the same numbers. I first became aware of its presence in our midst on September 1st, when I took 11 specimens flying round scarlet runners in my own garden. On looking back I am now convinced that the species had been out some days earlier, but, being preoccupied with other matters, I passed it over as the common blue, *L. Icarus*, of which, with *Argiolus*, there was also a sprinkling at the same place. Several of the first specimens obtained were worn, but for upwards of a week these delicate little butterflies increased in numbers, and even as late as Friday last, September 15th, I counted 10 at one time. But the dull and rough weather of the last few days has I fear destroyed them all. Females were very scarce, not, I think, 5 per cent. of those observed or captured. This is of course the collector's experience with many butterflies, and with most of the *Lycœnidæ*. For instance, this summer I took in a certain locality in the Rhone Valley, 16 males of *L. Meleagar*, but only one female in three days' diligent hunting; and a correspondent tells me that he has been taking males of *Bœtica* in fair numbers at Martigny, but up to the time of writing, not a single female. Of our aristocratic visitors, I caged two or three females, with several males, providing nosegays of mixed leguminous plants, and placed them in the sun, waiting without success for eggs. Mr. Luff, I believe, has been making similar experiments with some live specimens which I sent him, and with the same disappointing result. Unfortunately the "ladies" subjected to this experiment were spoilt as specimens for the cabinet. The range of the

butterfly seems to have been restricted to the neighbourhood of the town, as I made special expeditions to various parts of the island and examined everywhere fields of lucerne, and where possible rows of scarlet runners, but came across no specimens beyond a radius of half a mile from home. Others may have been more fortunate. I took a few specimens on a patch of lucerne in Mr. Davey's field, just behind the College Cricket Field, and believe that I have seen odd ones flying wildly at the top of the Grange and in Brock Road. Mr. Luff tells me that, besides taking specimens in his garden in Burnt Lane, he hears of captures in Sark. This last locality perhaps points to the route traversed by our visitors, who must have migrated to us in the summer and deposited their eggs on the peas or beans under cultivation. There are, in and round the town, many gardens which are able to thus afford temporary hospitality to such immigrants, whereas in the country, it seems to me that greenhouses so occupy the attention of farmers and cottagers, that kitchen gardens are comparatively few and far between. *L. Bœtica* we must assume, came from abroad, but it is to be noted that it is almost as rare in the north of France as with us. It is only in the central and southern departments that it has a permanent home. It is very rare in Switzerland, Germany and Belgium.

I need not attempt to describe this species to the meeting, as I have brought examples to exhibit, but a word or two may be interesting about its life history and geographical range. It is commonly known as the "Pea-pod Argus" in reference to its habits in the larval stage. In its southern homes the insect is double-brooded, appearing in the early summer, and again in late autumn. The eggs of this last brood are laid on the twigs of the bladder senna, *Colutea arborescens*, but do not hatch until the late spring, when the young seed pods of the plant are ready for the larvæ. The eggs appear to be laid separately, and the larvæ feed inside the seed pods, though when they grow larger I have found them in Switzerland, feeding after the manner of the *Dianthœcia*, with only the first half of the body within and the lower half hanging outside the pod. They also have a habit of coming out in the day and sunning themselves on the surface of the pod. This I noticed when searching for larvæ of *Iolas*, the magnificent "blue," which by feeding on *Colutea arborescens*, gives this plant a special distinction in the eyes of all collectors of continental butterflies. There seems to be some uncertainty about their customary method of pupation.

Most authorities say that *L. Bœtica* pupates among the leaves, or on the stems of its food plant, but Rühl says in his standard work "Die palaearktischen grosschmetterlinges." "My experience, however, was that the butterfly emerged out of some pods of *Colutea arborescens*, which I had gathered in Zurich. The pupæ take twelve days to hatch." Those which I myself had under observation in Switzerland, certainly pupated on the sides of the box, but circumstances compelled me to keep them in too small a space to admit of any fair deduction from this particular case.

L. Bœtica seems to have a very wide distribution, in fact to be almost cosmopolitan, though very uncertain in its appearance in all the more northern localities mentioned. Hofmann is very general, and says August and September in South Europe, and from Asia Minor to Persia and North Africa. Lang adds that "it is plentiful also at the Cape," and I have been also told that it is a common butterfly in India. As is natural the time of its emergence differs with the climatic influences of the localities where it is found. Thus to quote Rühl again, "in the East and South-East it is observed as early as March at Cairo; at the end of April, Port Said, but at Gibralter, mid-June. Kane gives June-July as general dates, and in South Europe a late autumn brood August-October, while Lang says simply August, September and October. In England where it has been taken two or three times on the South coast it has always, as in Guernsey, appeared in late autumn. According to Mr. Tutt it has been taken in Brighton in 1859, in the Isle of Wight, 1879, at Bognor, 1880, and Bournemouth, 1882, and various other rather vague records are to be found in the pages of our magazines. But in Guernsey we have been treated to an invasion of this interesting little blue, and its visits, though very uncertain, are perhaps much more frequent than we know. Might it not be possible to persuade it to become a resident? This, however, can only be done by providing a food plant. It does not seem as if the seed pods of any of our native *Luguminosæ* or *Papilionaceæ* are large enough to provide a domicile for the larvæ, and the cultivated pea does not stand through the winter, so that any autumn-laid eggs are necessarily lost, and *Bœtica* with us becomes extinct in one generation. I have written to Switzerland to obtain, if possible, seed of *Colutea Arborescens*, and in the meanwhile am going to leave my rows of scarlet runners undisturbed through the winter, in the remote chance that eggs may be laid upon them, or upon the sticks which support them. It is

noticeable that the great majority of the specimens which I had opportunities of observing, were very undersized, which may be due to their Guernsey diet not agreeing with them, or to the extreme drought which made leguminous plants produce small and less succulent fruit than ordinary so that the larvæ were poorly nourished. A certain small proportion, however, were fully up to standard size, and in at least three instances, two males and one female, I secured specimens *larger* than the outside dimensions given by either Kane or Lang. On a postcard dated September 14th, Mr. Tutt writes :—"I found *Bœtica* in Fontainebleau a fortnight since, so I daresay its appearance has been general in France." I would add that though the larva is very variable in colour, its more ordinary appearance is very admirably delineated in Professor Hofmann's "Raupen der Gross-schmetterlinge-Europas," from which plate it should be easily recognised. When quite small it is dark, almost black, but as it comes to full growth its ground colour is indifferently green, either olive or grass green, frequently ruddy brown, but there is always a wide dark stripe down the middle of the back of a more reddish hue, and a white stripe on either side the spiracles, which are yellow. There are also narrow double darker lines from the spiracles to the centre of the back slanting upwards towards the head.

RAINFALL OF GUERNSEY FOR 1899.

BY MR. A. COLLENETTE, F.C.S., F.R. MET. SOC.

AGAIN I have to thank the Guernsey observers who have co-operated with me and who have obliged me with their records.

The names, addresses, &c., are given in Table I.

TABLE I.

Position.	Elevation. Feet.	Observer.	Coast.	Periods compared.
Les Blanches	300	Mr. B. Rowswell.	East.	6
Beaulieu	190	Mr. A. Collenette.	East.	57
Claire Mare	50	J. J. Carey, Esq.	West.	4
L'Ancresse	33	E. Chas. Ozanne, Esq.	North.	3

The comparisons are getting more and more interesting because the general results of previous comparisons are confirmed, and in time, if kept up, these observations will enable me to find a mean value for the whole island, which will vary from the town results by being a smaller quantity.

The second table will give the quantities for each station and the mean for the years of comparison as well as the 57 years' average for the town.

TABLE II.

MONTHLY TOTALS FOR 1899, AND MEANS FOR THE LAST THREE YEARS AT HAUTEVILLE, CLAIRE MARE, LES BLANCHES AND L'ANCRESSE.

Months.	Hauteville.		Claire Mare.		Les Blanches.		L'Ancresse.		The 57 years' Average.
	Totals.	Mean.	Totals.	Mean.	Totals.	Mean.	Totals	Mean.	
January ..	5·45	3·05	3·84	2·41	4·64	2·39	4·23	2·30	3·84
February..	3·24	2·93	3·36	2·57	3·06	2·66	3·38	2·93	2·58
March	0·81	2·55	0·64	2·11	0·70	2·69	0·94	2·37	2·47
April	3·53	3·24	2·67	2·63	3·67	3·28	2·76	2·59	2·31
May.....	2·61	3·23	2·01	2·64	2·52	3·36	2·05	2·68	2·19
June	1·40	3·33	1·00	1·69	1·28	2·19	0·62	1·79	2·02
July.....	1·33	0·93	1·03	0·72	1·18	0·90	1·61	1·00	2·24
August ..	0·40	2·93	0·39	2·54	0·47	2·78	0·37	2·40	2·41
September	3·72	2·89	3·09	2·26	3·19	2·75	3·14	2·39	3·16
October ..	2·10	2·61	1·39	1·61	1·94	2·40	1·54	1·92	4·91
November.	4·65	3·87	4·72	2·66	4·07	3·54	4·43	3·20	4·42
December.	5·10	5·28	4·34	4·17	4·87	4·95	4·38	4·41	4·17
Year ...	34·34	36·84	28·48	28·01	31·59	33·89	29·45	29·98	36·72

This table can be made to give a correction for the three years which will show the mean for the whole island as collected by the stations compared. This corrected table follows:—

TABLE III.

THE MEANS OF ALL STATIONS FOR THE LAST THREE YEARS, THE 57 YEARS' AVERAGE, THEIR DIFFERENCES AND THE CORRECTED MEAN OF THE THREE YEARS COMPARED.

	Mean of all Stations.	Mean of Hauteville.	Difference.	57 Years' Average.	57 Years' Average corrected	Rainfall as it would appear on a Smoothed Curve.
Jan...	2·54	3.05	—0·51	3·84	3·33	3·60
Feb...	2·77	2.93	—0·16	2·58	2·42	3·30
Mar..	2·43	2·55	—0·12	2·47	2·35	2·90
April.	2·93	3·24	—0·31	2·31	2·00	2·60
May..	2·95	3·23	—0·28	2·19	1·91	2·20
June..	2·25	2·22	+0·03	2·02	2·05	2·10
July..	0·89	0 93	+0·04	2·24	2·20	2·10
Aug..	2·66	2·93	—0·27	2·41	2·14	2·30
Sept..	2·57	2·89	—0·32	3·16	2·84	2·50
Oct...	2·13	2·61	—0·48	4·91	4·43	3·90
Nov...	3,32	3·87	—0·55	4·42	3·87	3·30
Dec...	4·70	5·28	—0·58	4·17	3·59	3·40
The Year.	32·18	36·84	—4·66	36·72	32·06	

Last year the three years compared gave a smoothed result of 32·13 against 32·06 this year, the correction on the annual fall being 4·63 last year and 4·66 this year.

The year has been a dry one, for not only have we had a deficit of over two inches, but we have had fewer wet days and long droughts.

TABLE IV.

THE WET DAYS AT EACH STATION COMPARED WITH THE AVERAGES.

Months.	Hauteville.	Claire Mare.	Les Blanches	L'Ancresse.	Averages.	
					Of the Four Stations.	57 Years' Mean.
January	22	21	24	21	22	19
February	11	9	13	9	10	15
March	11	10	13	9	10	15
April	22	20	25	18	21	13
May.....	14	13	14	14	14	11
June	4	4	4	2	3	11
July.....	6	2	5	3	4	11
August	4	3	4	2	3	12
September	17	14	16	12	15	14
October	16	13	15	7	12	19
November	10	10	11	8	9	19
December	21	18	22	12	18	18
Year.....	158	137	166	117	144	161

The uncertainty of rain is a point which the observations help us to detect. As long as we discuss one station only, we cannot realise that heavy rains fall on part only of the island at times. It does not always follow that rain in one place, and even heavy rain, is accompanied by rain all over the area of the island. At other times the quantity of rain which falls over even continental areas is remarkably constant.

TABLE V.

HEAVY FALLS OCCURRING IN ONE DAY.

Date.		Hauteville.	Claire Mare.	Les Blanches.	L'Ancresse.
Months.	Day.	Falls between 0·50 and 1·0 inch.			
Jauuary	1	0·93	0·70	0·84	0·84
,,	11	0·53	—	0·51	—
,,	13	0·61	—	0·59	—
,,	15	0·52	—	—	—
,,	17	0·50	—	—	—
February	4	0·77	0·67	0·66	0·68
,,	5	—	0·57	—	—
,,	8	0·67	0·88	0·75	0·64
April	13	0·84	0·54	0·88	0·88
,,	24	0·57	—	0·54	—
May	12	0·66	—	—	—
,,	21	—	0·51	—	—
June	30	0·77	0·44	0·61	—
July	7	—	—	—	0·56
September	21	0·67	—	0·54	—
,,	28	—	—	—	—
,,	29	0·64	0·71	—	0·74
,,	30	—	—	—	0·74
October	26	0·75	0·58	0·63	—
November	2	—	0·75	—	—
,,	7	—	—	0·95	—
,,	9	0·63	0·55	0·63	0·54
December	24	0·75	0·73	0·74	0·70
,,	26	0·56	—	0·65	0·54
		Falls of one inch and above.			
July	21	1·25	1·01	1·11	1·04
November	5	1·60	1·57	1·67	1·56
,,	7	1·27	1·20	—	1·39
December	26	1·78	1·31	1·62	1·25

Since 1890 there have been five years of equally small or smaller amounts of rain as has occurred this year. They are :—

1890 — 34·33 inches.
1892 — 30·56 ,,
1893 — 30·84 ,,
1896 — 32·97 inches.
1898 — 34·36 ,,

Mr. Rowswell states that his returns give this year's fall as a smaller fall than the last five years.

I give the annual rainfall since 1880 for comparison:—

TABLE VI.

ANNUAL FALLS FROM 1881 TO 1899 INCLUSIVE.

Year.	Fall.	Year.	Fall.
1881	36·78	1891	38·09
1882	47·81	1892	30·56
1883	38·00	1893	30·84
1884	35·78	1894	40·38
1885	34·57	1895	37·74
1886	44·76	1896	32·97
1887	28·82	1897	38·47
1888	36·03	1898	34·36
1889	33·28	1899	34·34
1890	34·33		

L'Ancresse on the 30th of June had no rain, while a deluge fell on the town and southern portion of the island; the figures were:—Town, 0·77; Claire Mare, 0·44; St. Martin's, 0·61. On July 7th no rain was collected at these stations, but L'Ancresse registered 0·56. The five last days of September were very wet, with heavy rain in sudden squalls, which were evidently very partial. The three stations, Hauteville, Claire Mare and L'Ancresse, collected during the five days, 2·22, 1·96, 2·19, respectively. These quantities agree well, but the distribution in days differs greatly, thus:—

26—	Hauteville,	0·45.....	Claire Mare,	0·36.....	L'Ancresse,	0·46.
27—	,,	0·45.....	,,	0·53.....	,,	—
28—	,,	0 39.....	,,	0·03.....	,,	0·74.
29—	,,	0·64.....	,,	0·71.....	,,	0·25.
30—	,,	0·29.....	,,	0·33.....	,,	0·74.

TABLE VII.

ABSOLUTE DROUGHTS.

1.	February 16th to March 5th	18 days	At Hauteville.
	,, 16th to ,, 3rd	16 ,,	,, Claire Mare.
	,, 16th to ,, 3rd	16 ,,	,, L'Ancresse.
2.	May 27th to June 17th	22 ,,	,, Hauteville.
	,, 27th to ,, 17th	22 ,,	,, Claire Mare.
	,, 27th to ,, 17th	22 ,,	,, L'Ancresse.
	,, 27th to ,, 17th	22 ,,	,, Les Blanches.
3.	July 2nd to July 20th.....	19 ,,	,, Claire Mare.
4.	July 22nd to August 26th	36 ,,	,, Claire Mare.
	,, 22nd to ,, 26th	36 ,,	,, L'Ancresse.
	,, 24th to ,, 26th	34 ,,	,, Les Blanches.
	,, 27th to ,, 26th	31 ,,	,, Hauteville.
5.	November 10th to December 4th	24 ,,	,, L'Ancresse.

PARTIAL DROUGHTS.

1.	July 22nd to August 28th	38 days	0·05	At Hauteville.
	,, 22nd to ,, 28th	38 ,,	0·04	,, Les Blanches.
	,, 22nd to ,, 28th	38 ,,	0·01	,, Claire Mare.
	,, 22nd to ,, 28th	38 ,,	0·02	,, L'Ancresse.

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